

MECHANIZED INFANTRY ORGANIZATIONS AND PLANNING

Subcourse Number IN 0769

EDITION B

United States Army Infantry School
Fort Benning, Georgia 31905

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SUBCOURSE OVERVIEW

This subcourse is designed to teach you to identify and select the resources that are organic, attached to, or OPCON to a mechanized company team and battalion task force in terms of the seven operational systems and planning.

There are no prerequisites for this subcourse.

This subcourse reflects the doctrine which was current at the time it was prepared. In your own work situation, always refer to the latest publications.

The words "he," "him," and "men," when used in this publication represent both the masculine and feminine genders unless otherwise stated.

TERMINAL LEARNING OBJECTIVE

- ACTION:** You will be able to identify and select the resources that are organic, attached to, or OPCON to a mechanized company team and battalion task force in terms of the seven operational systems and planning.
- CONDITION:** You will have access to information contained in this subcourse.
- STANDARDS:** Identify and select the resources that are organic, attached to, or OPCON to a mechanized company team and battalion task force in terms of the seven operational systems and planning.

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LESSON I

ORGANIZATION, MISSION, EQUIPMENT, AND CHARACTERISTICS OF FUNCTIONAL RESOURCES THAT ARE ORGANIC, ATTACHED, OR OPCON TO COMBAT MANEUVER FORCES

OVERVIEW

LESSON DESCRIPTION:

In this lesson, you will learn to identify and select the resources that are organic, attached to, or in support of a mechanized company/team in terms of the operational systems.

TERMINAL LEARNING OBJECTIVE:

ACTION: Identify and select the resources that are organic, attached to, or in support of a mechanized company/team in terms of the operational systems.

CONDITION: You will have access to information in lesson 1.

STANDARD: Identifying and selecting the resources that are organic, attached to, or in support of a mechanized battalion/task force in terms of operational systems.

REFERENCES : The material contained in this lesson was derived from the following publications: [FM 71-1](#), [FM 7-7J](#) (CD), and [FM 71-2](#).

INTRODUCTION

In this lesson, you will learn to identify and select the organization, mission, equipment, and characteristics of functional resources that are organic, attached, or OPCON to combat maneuver forces and which enable commanders to accomplish a vast variety of combat and combat-related missions.

PART A - MECHANIZED BATTALION/TASK FORCE RESOURCES

1. Company Team Organization.

The company team consists of a company headquarters, its organic platoons (minus detachments), attached mechanized infantry or tank platoons, CS, and CSS elements.

- a. Task Organization. The company team is task-organized by the battalion task force commander for a specific operation or mission, based on his estimate of the situation. Habitually task organizing the same non-organic elements to a company team headquarters forms close relationships that are important to teamwork on the battlefield. This is especially important in the area of CSS and fire support coordination. [Figure 1-1](#) shows the mechanized

infantry battalion equipped with Bradley fighting vehicles (BFVs) and [Figure 1-2](#) shows the organization of the mechanized infantry battalion (M113) rifle company.

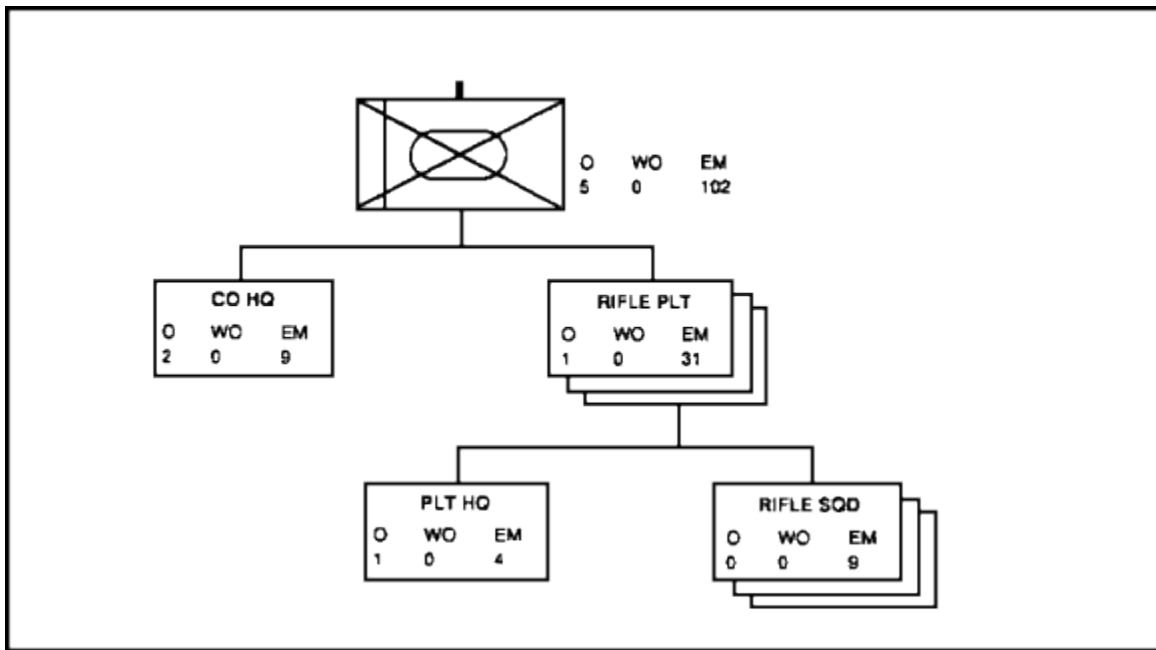


Figure 1-1. Mechanized infantry battalion (BFV) rifle company

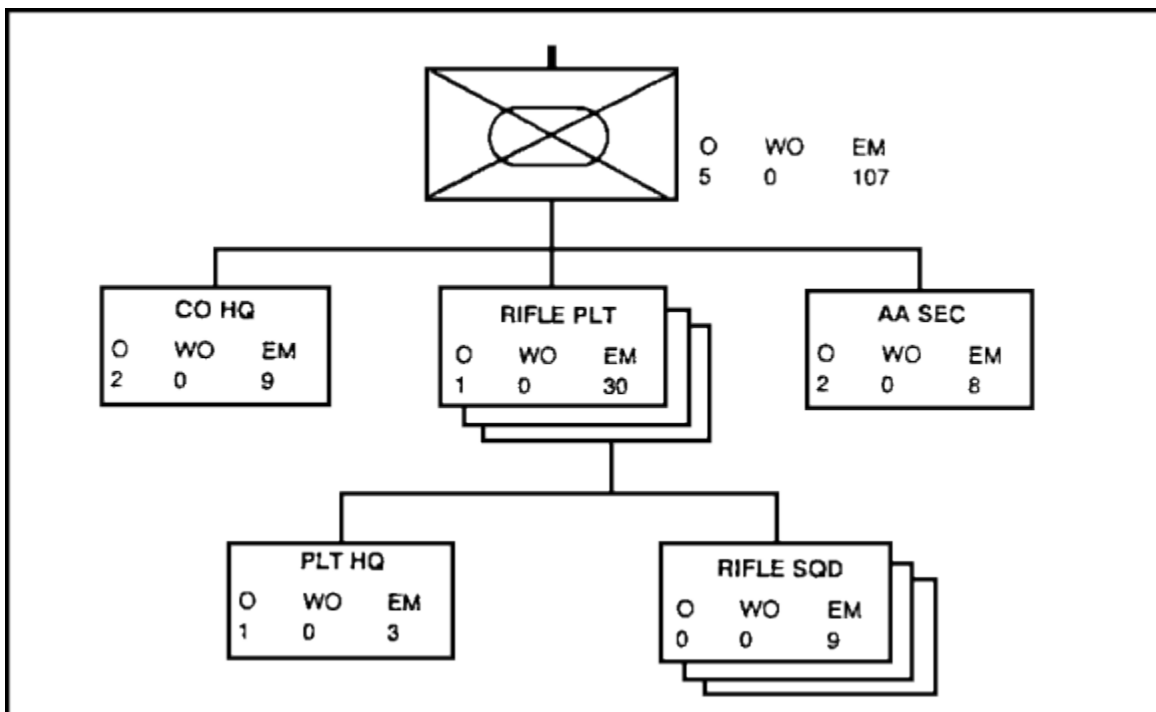


Figure 1-2. Mechanized infantry battalion (M113) rifle company

(1) Mission. The mission of the mechanized infantry battalion (BFV) rifle company is to close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack.

(2) Capabilities. The company team can—

- Conduct operations requiring a high degree of firepower, mobility, armor protection, and shock effect.
- Destroy enemy armor at long and close ranges. Mechanized infantry can destroy enemy tanks with long-range, tube-launched, optically-tracked, wire-guided (TOW) missile fires up to 3,750 meters. Lightly armored vehicles can be destroyed up to a range of 1,850 meters with 25mm cannon fire. Medium-range ATGM fire can destroy enemy tanks and other armored vehicles up to a range of 1,000 meters.
- Suppress and kill dismounted infantry with 25-mm cannon fire (3,000 meters) and coaxial machine gun fire (900 meters).
- Conduct continuous operations under most terrain and weather conditions. Mechanized infantry can—
 - Move mounted cross country as rapidly as tanks (30 mph).
 - Swim water obstacles (with preparation).
- Clear close terrain and built-up areas of enemy dismounted infantry.
- Protect armored vehicles in close terrain with dismounted infantry.
- Conduct reconnaissance and security.
- Emplace, guard, or breach obstacles.
- Conduct combat operations in limited visibility conditions employing night vision devices and other surveillance measures.

(3) Limitations. Limitations of the mechanized infantry include:

- Infantry vehicles are more vulnerable to destruction than tanks.
- Mobility and long-range engagement capabilities are degraded in close terrain.
- When separated from their vehicles. The reduced number of dismounted infantry inhibits their effectiveness in traditional infantry roles.
- Dismounted infantry is vulnerable to indirect fire and small arms fire.

NOTE: Frequently a company team is formed by the attachment of one or more nonorganic tank, mechanized, or infantry platoons to a tank, mechanized, or infantry company either in exchange for, or in addition to, organic platoons.

2. Battlefield Operating Systems.

Task force functions are grouped into seven battlefield operating systems that must be integrated to support the commander's intent. The functioning of each system requires the coordinated efforts of all elements of the task force. The commander and staff integrate these systems into a combined arms force tailored to the situation.

The seven battlefield operating systems are—

- Command and control.
- Maneuver.
- Fire support.
- Intelligence.
- Air defense.
- Mobility, countermobility, and survivability.
- Combat service support.

a. Command and Control. A company team commander uses command and control to make sure the unit accomplishes its missions. Various tools have been developed to assist a company commander in executing and accomplishing tactical operations. This module provides a working knowledge of the tools needed to properly command and control a unit and make sound tactical decisions on the modern battlefield.

Command is the authority that a commander exercises over subordinates by virtue of his rank and authority. It includes responsibility for effectively using available resources and organizing, directing, coordinating, and controlling the employment of military forces to accomplish the mission.

Control is the means used to assign responsibilities and coordinate fire and maneuver. The commander's duties keep him from personally accomplishing or supervising all tasks. To accomplish all missions, he must conduct operations through an efficient chain of command, constantly using his SOP.

(1) Forward Location Operation. The commander fights from a forward location where he can best see, hear, and influence the battle. He issues the orders necessary to control his subordinate units. His subordinate commanders and his soldiers must be aware of his presence on the battlefield.

The task force uses standard military terminology, symbology, and reports and orders formats to distribute information and instructions. Face-to-face coordination is the most reliable of all means of communication. Copies of orders and instructions are limited and are generally in the form of operations overlays with superimposed execution matrixes.

(2) Communications. Wire is used as the preferred means of communications between elements that are in position for more than a few hours. Radio communication is critical to fast-moving operations, but it has limitations and the enemy can disrupt it during critical times. Knowing the commander's intent and concept of the operations allows subordinates to act on their initiative and precludes an overdependence on radio communications. The S3 is responsible for orders preparation and, through the task force signal officer, manages the electronic, wire, and messenger systems.

(3) Duties of Key Personnel. Command and control is exercised through a consonance of action on the part of the commander and his subordinates. To better understand this, let us look at the duties of the key personnel in the company team.

(a) Company Team Leader. The company team leader is responsible for the employment, training, discipline, control, CSS, and welfare of his company. He actively supervises the performance of those under his command and employs his unit in combat in accordance with orders received from higher headquarters. He positions himself in his assigned armored vehicle well forward on the battlefield where he can best control the fires and movement of his elements. The commander operates in the absence of orders, making decisions based on his overall mission, his estimate, and his understanding of the battalion and the brigade commanders' intent. He divides tasks among key subordinates and clearly outlines the responsibilities of his XO, FIST chief, first sergeant, NBC NCO, master gunner, communications chief, and supply sergeant.

(b) Executive Officer. The XO is the second in command. As the second in command of the unit, the XO takes charge of the second most important area or function on the battlefield as determined by the commander. Prior to the battle, the XO coordinates the first sergeant's execution of combat service support actions and prepares to assume command of the company if the commander is incapacitated. During the battle, the XO reports the battle flow to the battalion task force tactical operations center. He keeps abreast of the tactical situation so that he can keep the commander informed and take over if the commander becomes a casualty. Normally, the XO operates well forward in his assigned armored vehicle. He positions himself in the nearest available overwatch position where he can see what is going on and communicate with both the battalion task force and lateral units. It is of note that the fighting XO can take a lot of the routine reporting functions off the back of the commander and can truly function as a 2IC with the capability to assume command if necessary.

(c) First Sergeant. As the senior NCO, the first sergeant advises the commander and assists him by performing assigned duties, to include supervising the company teams administration, CSS, maintenance, and training activities. Additionally, the first sergeant provides a wealth of experience to the company that a wise commander uses.

(d) Additional Personnel. The commander has additional personnel who assist him in the command and control area. They are the FSO, the NBC NCO, the master gunner, and the tactical communications chief. The NBC NCO assist the commander in planning and conducting NBC operations and keeps the commander advised of contaminated areas. He normally rides with the XO. The master gunner is the primary adviser to the commander on gunnery. He occupies the gunner's station on the BFV. He can also serve as company operations NCO and assist the commander in preparing overlays, rendering reports, and so forth.

The tactical communications chief advises the commander on all aspects of tactical communications. He normally is located with the XO. He receives and distributes CEOIs, maintains radio equipment, and is responsible for the installation, operation, and maintenance of field wire communications, telephones, and switchboards. He, too, can serve as company operations NCO.

(e) Communications. The company is provided with the following means of communication:

- FM Radio: The company command net, battalion command net, admin-log net, and platoon net are secure.
- Wire: Wire hot loops are available. Always consider wire, even if the force will be stationary only for brief periods.
- Messenger: Use messengers whenever possible. Messengers decrease radio traffic, but the use of messengers takes more time. Messengers usually come from battalion for communication between the company and higher. At company level, platoons send messengers to the company commander.
- Visual Signals: Visual signals are planned together or with, or as a backup to, voice communications. Examples include signals made with the hand and arm, pyrotechnics, flags, and flashlights.
- Audible Signals. Examples of audible signals include beating on metal objects or detonating explosives.

(f) Command and Control. Command and control during the execution of operations is the most difficult challenge that a commander faces. Specific techniques used for command and control during execution are—

- Think before you talk.
- Be in a position to see the battlefield.
- Know the location and activities of platoons and the XO at all times.
- Drill subordinates in situation report procedures.
- Continuously think ahead and identify potential threats and opportunities.
- Constantly develop and revise prepared missions for elements.
- Exercise control through SOP drills that are cued by brief commands or enemy actions.
- Ensure all-round security.
- Use a navigator (master gunner) to maintain current location and inform you of upcoming terrain features.
- Use the XO to monitor the battalion frequency, make required reports, and keep track of unit locations (adjacent).

b. Maneuver. The maneuver companies of the task force destroy enemy forces and seize and hold terrain. All other task force assets support the maneuver elements.

(1) Infantry Elements. The rifle company is the basic maneuver element of the battalion. It can close with and destroy enemy infantry. When properly employed, it can defeat enemy armored vehicles from close range. Organic TOW provides the battalion with long-range antiarmor capability.

Historically, the infantry has been most effective during limited visibility, where observation and fields of fire were limited and in close combat with the enemy. With the introduction of the improved TOW vehicle and Bradley fighting vehicle, the infantry has gained increased flexibility to destroy enemy armor at long range and to fight mounted, during limited visibility, while retaining the ability to fight dismounted as the situation requires.

(2) Tanks. Tanks (when supporting) are most effective where they can move fast and provide rapid, accurate direct fire at extended ranges. Thermal sights increase the capability of tanks to fight during limited visibility.

(3) Attack Helicopters. When combined with infantry to form an air assault task force, attack helicopters are a maneuver asset that may operate with the battalion even though they are normally under OPCON of the brigade. They are highly mobile and can provide accurate long-range antitank fires during the defense, attack, exploitation, or pursuit. Attack helicopters can deny terrain to the enemy, but cannot seize and hold terrain, and they are not effective against a dug-in enemy.

c. Fire Support. The task force commander plans and coordinates his fire support to suppress, neutralize, or destroy the enemy. The FSO assists the commander in planning and coordinating fire support. In addition to organic mortars, the commander receives fire support from field artillery units and close air support from the Air Force.

In war, maximum combat power results from the most effective use of firepower and maneuver. These elements are inseparable, and both are equally important in the battle.

Fire support is the collective and coordinated use of indirectfire weapons and armed aircraft in support of a battle plan. Fire support is provided by mortars, field-artillery cannons and multiple-launched rocket system (MLRS), Army aviation, close air, and Naval gunfire (NGF). Employ these means to—

- Support the scheme of maneuver.
- Mass firepower.
- Suppress and neutralize or destroy enemy forces.

Tanks and air defense weapons also have a secondary ability to provide limited indirect-fire support. A company team commander must know what the field artillery and mortars can do. He must thoroughly understand the fire support system, be able to plan and use indirect fires as effectively as the company team's organic weapons, and be able to direct the company's maneuver.

Fire support destroys, neutralizes, and suppresses enemy weapons, formations, or facilities. Smoke obscures the enemy's vision, degrading the effectiveness of his direct- and indirect-fire weapons. High explosive and DPICM cause enemy tanks and other armored vehicles to button up and slow down. This reduces the enemy's observation, flexibility, momentum, and command and control. Indirect-fire support extends battlefield depth, wears down enemy forces, and inflicts damage well beyond direct-fire ranges without exposing friendly tank and infantry fighting positions and vehicles.

(1) Fire Support Officer. An FO, FSO, and fire support coordinator (FSCOORD) are provided at every level from infantry platoon and tank company through corps. The company FSO commands the FIST. He is the technician who translates guidance into a written fire plan, coordinates that plan with the task force FSO, and assists in executing the plan. The company team commander makes the final decisions regarding the company fire support plan.

The FSO habitually accompanies the commander to receive the task force order so that both hear the task force order and the task force commander's intent. After the formal OPOD brief, the company FSO meets with the task force FSO to ensure thorough understanding of the task force fire plan. During the return trip to the company, the commander and the FSO can discuss the impending operation and refine mutual understanding of the company's mission.

The task force fire plan includes specific guidance concerning company responsibilities in executing the task force fire plan. The plan specifies where, when, and what targets to shoot and should specify any special requirements of the company, such as adjusting FPFs. The fire plan originates at task force level and is modified and expanded based on company input.

The task force fire support plan may designate tasks for the company that require the FSO to occupy a vantage point separate from the company. For instance, an FSO can rarely observe and adjust fires from defilade or hide positions that may be occupied by the company. Additionally, company teams in reserve, in counterattack positions, or trailing the task force in offensive maneuvers may lose their FSO to provide fire support to the task force scout platoon. In mechanized-heavy task forces, the antitank company has no FSO. When the company does not have an FSO, the commander must plan the company fire support. Therefore, he must be able to read and implement the fire support plan and execution matrix. He must also understand the capabilities and limitations of the most common indirect-fire systems.

NOTE: In addition to the following discussion of fire support, the relationship of combat support to fire support is discussed further in paragraph 1h of Part B of Lesson 2 of this module.

(2) Indirect Fire System Capabilities. Mortars and field artillery provide indirect fire capability, as discussed in the following subparagraphs. In addition, information concerning the following related topics is provided in the following subparagraphs:

- Effects of fire.
- Fire support planning.
 - Maneuver commander's intent.
 - Fire support planning process.
 - Targets.
 - Preparation.
 - Counterpreparation.
 - Registration.
 - Suppression.
 - Use of special munitions.
 - Rehearsal and execution.
 - Communications.
 - Fire support coordinating measures.

(a) Mortars. The mortar platoon provides organic indirect fires for the task force.

The battalion task force heavy mortar platoon has six tracked 4.2-inch (107-mm) mortars and a fire direction center (FDC). The platoon usually operates as a six-tube platoon but can split into two three-tube sections, each with its own FDC. Mortars are the most responsive indirect-fire system for killing dismounted infantry. They put out a high volume of fire and are also excellent for—

- Engaging targets in defilade or dead space.
- Suppressing enemy weapon systems, especially ATGM sites.
- Emplacing white phosphorous smoke on or near enemy positions (obscuration) or between friendly and enemy positions to conceal movement (screening). The quick response and excellent smoke characteristics of white phosphorous rounds make this an ideal mission for mortars.
- Illuminating enemy and terrain. Because night-vision equipment is limited, illumination is particularly important when friendly infantry is dismounted. Illumination is also used during periods of limited visibility to mark targets for CAS and attack helicopters, adjust artillery fire, and designate reference points for navigation. Illumination on top of enemy positions can blind enemy passive nightvision equipment and temporarily destroy his night vision, while exposing his positions. Illumination behind an objective silhouettes enemy positions, vehicles, and personnel.

The chief disadvantages of mortars are their relatively short range and limited ammunition-carrying capability.

(b) Field Artillery. Field artillery provides a variety of indirect fires to the task force. It can deliver smoke, scatterable mines (FASCAM), cannon-launched,

guided projectiles (Copperhead), antipersonnel and antimateriel munitions, and, when they have been released, chemical and nuclear munitions.

Field artillery is the principal FSE. A variety of weapon, systems are available to support the task force and, therefore, the team. The three most common types of artillery that may support a mechanized or armored force are the M109 (155-mm), M110 (203-mm), and the M270 (227-mm) MLRS. It is important to know which systems are supporting the task force because all ammunition types are not available for all weapons. Family of scatterable mines (FASCAM) and Copperhead, for instance, are available only in 155-mm. There are no smoke or illumination rounds for 203-mm howitzers. [Figure 1-3](#) lists weapons and ammunition available.

Field artillery can perform the same missions as mortars (subject to the munitions restrictions noted in [Figure 1-3](#)). Generally, field artillery has a greater ability to mass fires on a target, to vary the types of munitions and fuzes to achieve optimum effect, and to fire at much longer ranges than mortars. Additionally, field-artillery-delivered FASCAM provide the capability of emplacing a minefield quickly.

FASCAM are engineer obstacles that are emplaced by 155-mm howitzers. Employment of FASCAM is not delegated below maneuver battalion level.

Copperhead is the name of a terminally-homing, point-target artillery round. Copperhead guides into a target designated by a ground or airborne laser designator. The ground-based designator is on the company FSV and with the combat observation lasing team (COLT).

(c) Effects of Fire. Decide what lethal effect fire support must have on a particular target. There are three types of fire:

CALIBER	60 mm	81 mm	107 mm	105 mm	155 mm	203 mm	155 mm	227 mm
MODEL	M224	81	M30	M102	M109A3	M110A2	M198	MLRS
MAX RANGE (m)	3,500	4,789	6,840	11,500	18,100	22,900	22,400	30,000
PROJECTILE	HE, WP, ILLUM, BE	HE, WP, ILLUM, BE	HE, WP, ILLUM, CHEM, BE	HE, WP, ILLUM, HEP-T, APICM, CHEM, APERS, RAP, BE	HE, WP, ILLUM, SMK, CHEM, NUC, RAP, FASCAM, CPHD, AP/DPICM, BE	HE, APICM, CHEM, NUC, DPICM, RAP	HE, WP, APICM, SMK, CHEM, NUC, RAP, FASCAM, CPHD, DPICM, ILLUM, BE	DPICM
MAX RATE OF FIRE (rd/min)	30	30	18	10	4	1.5	4	12
SUSTAINED RATE OF FIRE	5	8	2	3	1	.5	*	**
RANGE OF RAP (m)				15,100	23,500	30,000	30,000	
MIN RANGE (m)	75	70	920	DIRECT FIRE				8,000
FUZES	MO***	PD, VT, TIME, DLY	PD, VT, TIME, DLY	PD, VT, MT, MTSQ, CP, DLY	PD, VT, MTSQ, CP, MT, DLY	PD, VT, CP, MT, MTSQ, DLY	PD, VT, MTSQ, CP, MT	ELECT, TIME

*2 RPM or as determined by thermal warning device.
**Determined by FDC.
***MO – Multioption – VT, PD, DLY.

LEGEND:	HEP-T – High Explosive Plastic Tracer
AP – Armor Piercing	ILLUM – Illumination
APERS – Antipersonnel	MLRS – Multiple Launched Rocket System
APICM – Antipersonnel Improved Conventional Munitions	MT – Mechanical Time
BE – Base Ejection	MTSQ – Mechanical Time Super Quick
CHEM – Chemical	NUC – Nuclear
CP – Concrete Piercing	PD – Point Detonating
CPHD – Copperhead	RAP – Rocket Assisted Projectile
DLY – Delay	SMK – Smoke
DPICM – Dual Purpose Improved Conventional Munition	TIME – Adjustable Time Delay
FASCAM – Family of Scatterable Mines	VT – Variable Time
HE – High Explosive	WP – White Phosphorous

Figure 1-3. Weapons and ammunition.

- Suppression is fire on or about a weapon system to degrade its performance. The effect of suppressive fires usually lasts only as long as the fires are continued.
- Neutralization is fire delivered to render the target temporarily unusable or ineffective. Experience has shown that 10 percent or more casualties may neutralize a unit. The amount of ammunition required to neutralize a unit depends on factors such as the state of enemy morale, standard of training, and degree of protection.

- Destruction is fire that puts the target out of action for a prolonged period of time. Depending on the type, morale, and discipline of the enemy force, 30 percent or more casualties normally renders a unit ineffective. Direct hits are required to destroy hard materiel targets. Targets must be located by accurate map inspection, indirect-fire adjustment, or a target acquisition device.

Artillery can also produce nonlethal effects by using illumination and smoke munitions.

(d) Maneuver Commander's Intent. Make sure the intent for maneuver and fire support is clearly understood by the FSO. Identify the role of fire support in the scheme of maneuver (when, where, what, and why) by providing detailed guidance to the FSO explaining the concept of the operation, scheme of maneuver, and tasks for fire support. Do not abdicate the fire plan to the company FSO. The FSO must understand the maneuver plan as well as the commander understands it.

Providing this level of guidance is not easy. Artillery fires are not instantaneous. Three to seven minutes are required to process routine targets and get fires in the target area. Planning must adjust to reflect this lag time. While wargaming the maneuver, refine the critical targets or EAs, priority of targets, priority of engagement, sequence of fires, and results desired. You then are able to see when and how to synchronize direct and indirect fires to achieve the maximum destruction of the enemy and the greatest protection of the force.

One unit should be designated to have priority of fires. This is one way to weight the company's main effort. It also prioritizes requests when two or more units want fires at the same time. The unit with priority overrides other requests for fire. Designate where to place obscuration or illumination, suppressive fires, and preparation fires. See the battlefield, both literally and figuratively, to decide how to maneuver, where to engage the enemy, and what fire support is needed. This is probably the most difficult thing you have to learn to do.

(e) Fire Support Planning Process. While developing and refining the tactical plan, the FSO is concurrently developing and refining the fire support portion of that plan. The FSO does not wait for you to complete the scheme of maneuver but inputs fire planning as the scheme of maneuver is being developed.

The company FSO builds the fire plan using deliberate or hasty fire support planning, depending on the time available. In either case, targets must be placed in the fire support planning channels as soon as possible so they can be processed at the battalion FSE or battery FDC.

Regardless of which planning method is used, the company team fire support plan must include—

- Target number and location.
- Primary and alternate persons responsible for shooting each target.
- Radio frequency and call sign to use in requesting fires.
- Priority of fires in the event of two units requesting fires at the same time.
- Size, location, and emergency signal to begin FPF.

Other information may be included as necessary or appropriate.

The company FSO does most of the company fire planning. However, he may receive targets and target information from platoon leaders, platoon FOs, and the task force FSO. The commander and FSO should not plan too many targets. A company team should normally anticipate planning no more than five or six targets and one FPF. More than this clogs the fire support planning channels and adds clutter to the company graphic overlay. This may vary depending on the mission and the extent of the task force fire support plan.

The company FSO completes the fire plan and briefs the commander to obtain approval. He may alter the plan or approve it as is. The commander makes the final decision. When the plan is complete, the FSO make sure that targets are passed to the task force FSE where, the fire plans are consolidated and integrated into the task force scheme of maneuver.

The FSO must make sure platoon leaders and FOs are thoroughly familiar with the fire plan. He should also provide target overlays to the platoon leaders, FOs, and the commander. The company team fire support platoon may also be disseminated as a target list and a fire support execution matrix. This must be done in sufficient time to allow subordinates to brief the platoons and sections. A good plan given with the company order is better than a perfect plan handed out at the line of departure.

Task force fire support plans are routinely distributed in matrix format. The fire support planning and execution matrix is a concise, easy planning tool showing the many factors of a complicated fire support plan. The fire support planning and execution matrix may aid the company FSO and the commander in understanding how the fire plan supports the scheme of maneuver. It is a valuable planning tool for both the offense and the defense. It explains what aspects of the fire support plan each FSO or FO is responsible for and at what time during the battle these aspects apply.

The advantage of the matrix is that it reduces the plan to one page, simplifies the plan, and clarifies the plan. The matrix also directs execution responsibilities and reduces the possibility that planned fires are not executed.

Dissemination of the fire plan is the responsibility of the commander. The commander and key subordinate leaders must understand the categories of targets and how to engage those targets to create the desired result.

[Figures 1-4](#) and [1-5](#) show one type of matrix, set up with the maneuver elements along the left side and different phases PLs, events, or times of the mission along the top.

(f) Targets. "Target" is the most fundamental term used in fire support planning. A target can be personnel, vehicles, material, or terrain that is designated and numbered for reference or firing. Every target can be classified as either a target of opportunity (appears during combat, no attack has been planned) or a planned target (fire is prearranged, the degree of prearrangement varies, but some prior arrangement has been made). Individually planned targets may be further subdivided into either scheduled or on-call targets. A scheduled target is a planned target to be attacked at a specified time. An on-call target is a planned target on which fire is delivered when requested.

A priority target is one that could decisively affect the accomplishment of the unit mission. The brigade commander may allocate artillery priority targets to subordinate task forces. Task force commanders may in turn allocate priority targets to his subordinate company teams. Normally, priority targets are

	AA	LD/LC	PL RED	PL BLUE	PL GREEN
TM TK	MORT A FA FPF	MORT A MORT PRI TGT CB 3010	MORT A MORT PRI TGT CB 3119	MORT MORT PRI TGT CB 3225	MORT SERIES FINISH C0B
C0 B	MORT B MORT FPF	MORT B MORT PRI TGT CB 3008		FA C0B C0C	
C0 C	FA FA FPF	FA PRI TGT CB 3002	FA PRI TGT CB 3003		
BN CONTROL		FA C4B SERIES JOE TM TK	ACA ORANGE TOT 0800 CAS TM TK	FA C7B CB B TM TK	FA FA FPF TM TK

As the units depart the assembly area (AA) toward the LD/LC, priority of field artillery fires is picked up by the battalion; Group C4B and Series Joe are initiated by the company FSO as directed by the battalion commander. If communication with the FSO is lost, the lead company has the option to initiate these fires (as specified by the unit SOP). Priority of fire from the mortar sections remains the same as in the AA. Company C, the lead team at this point, has been allocated CB3002 as a priority target. Team Tank and Company B have mortar priority for targets in their respective sectors and have targets designated as shown in the matrix.

The following information is shown on a task force fire support planning and execution matrix:

- The FPF preceded by the type of indirect-fire means to be used to fire that FPF will appear in the center of the box (FA FPF).
- A priority target allocated to a team will appear in the box preceded by the means of fire support to fire the target (FA PRI TGT). Once a target is determined as the priority target, the corresponding target number is placed in the box (FA PRI TGT CB3002).
- If a certain company FSO is responsible for initiating specific fires, the target number, group, and series will be listed in the box for that FSO (FA C4B Series JOE).
- Backup execution responsibility is indicated in the lower right corner of the appropriate box (TM TK [Team Tank]).
- Other factors that apply to a certain team during a specific time frame may also be included in the appropriate box. General guidance is issued in the written portion of the operation order.
- Any additional explanation of a particular aspect of the fire support execution matrix may be included in a separate remarks section.

Figure 1-4. Task force fire support planning and execution matrix

	AA	LD	CP 7	OBJ GREEN
FSO	INITIAL PREP WF PLT	FIRE CA 3012 CFL CHUCK 2D PLT	FIRE C1A 3D PLT	ACA 1400Z
1ST PLT	FA FPF	CFL CHUCK		MORTAR FPF
2D PLT	FA FPF	MORT PRI TGT CA 3014 CFL CHUCK		FA FPF
3D PLT	MORTAR	CFL CHUCK	MORT PRI TGT CA 3017	FA FPF

This is an example of a completed fire support matrix for a company deliberate attack. In the AA, a field artillery FPF is allocated for 1st and 2d platoons; 3d platoon has been allocated a mortar FPF; 2d platoon has been allocated a mortar FPF; 2d platoon has priority of mortar fires from the line of departure (LD) to Checkpoint 7. From Checkpoint 7 to Objective Green, 3d platoon has been allocated a mortar priority target and has designated it as CA0017; 2d platoon is backup for execution. 1st platoon has been allocated a mortar FPF; 2d and 3d platoons have been allocated field-artillery FPFs.

At company level, information in each box of the matrix includes –

- Priorities of indirect fire support to a platoon will appear in the upper left corner of the appropriate box (FA).
- The type of indirect fire means responsible for firing the FPF will appear in the center of the box (FA FPF).
- Priority targets allocated to a platoon will appear in the box preceded by the means of fire support responsible for engaging the target, and followed by the target number (MORT PRI TGT CA3014).
- If the company FSO is responsible for the initiation of specific fires, the target number, group, or series designation will be listed in the box for the FSO (FIRE 4 CA3012). Specific guidelines concerning fires not included on the target list work sheet will be included in that box.
- Alternate element responsible for execution of specific fires will be listed in the lower right hand corner of the box (2D PLT).
- Each fire support measure to be placed in effect followed by a word designated for that measure will be shown in the box (CFL CHUCK). For airspace coordination areas (ACA), the time the planned CAS or attack helicopters are due in place is listed (ACA 1400Z).
- Other factors that apply to a certain platoon during a specific time may be included in the appropriate box. General guidance is issued in the written portion of the operation order.

Figure 1-5. Company team fire support execution matrix

designated by the company team commander (with the recommendations provided by FIST personnel). Final protective fires (FPFs) are an example of a priority target.

When the task force commander designates priority targets, he should provide specific guidance to the FSO and his subordinate company teams as to when certain targets become priority targets, when they cease to be priority targets, the desired effects on the targets, and any special type of ammunition to be used. Firing units lay the guns on priority targets when they are not engaged in a fire mission. This reduces reaction time. Generally each field artillery battery lays on

one priority target. In dedicated battery operations, one platoon may lay on a priority target while the rest of the battery supports the maneuvering unit. FPF is an example of a priority target in a defensive situation.

A target number is assigned to each planned target by the company FSO. Blocks of alphanumeric target numbers (two letters and four numbers) are provided for all fire-planning agencies. They serve as an index to all other information regarding a particular target, such as location, description, and size. All TRPs that are targeted by the company FSO are assigned target numbers. Mortar sections have blocks of target numbers so they can assign a target number when an observer directs "record as target" upon completion of a registration.

A standard target is an area approximately 100 meters in radius. The symbol for a standard target is a cross, as shown in [Figure 1-6](#).

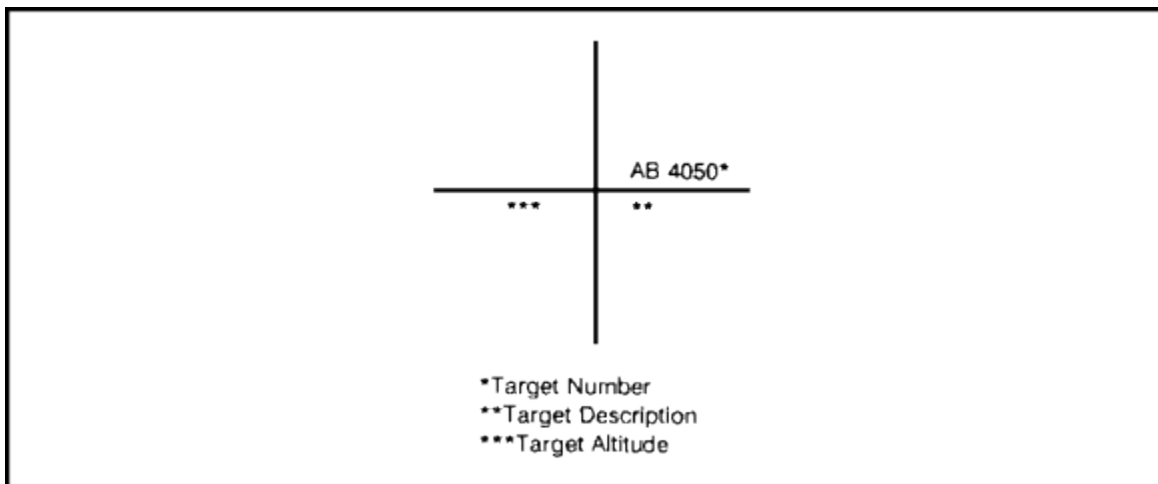


Figure 1-6. Standard target graphic symbol

It may be canted if several targets are close to each other or when the symbol might be confused as a grid intersection. The intersection of the lines marks the center of the target. The target list describes the nature of the target and other pertinent information. This applies to targets planned for conventional and improved conventional ammunition.

- Offensive Application. These targets should be used to attack known, suspected, or likely enemy positions such as OPS, antitank sites, road intersections, or terrain that dominates attack axes.
- Defensive Application. Because we expect the enemy to attack swiftly, these targets should be selected to destroy the enemy as he attacks. Plan targets at fording sites, bridges, narrow defiles restricting movement, road intersections, obstacles, and possible overwatch positions.

A linear target is narrow and more than 200 meters long (for example roads and trench lines). A linear target is designated on the target list by two grids (one for

each end of the target), or a center point including length and altitude, as shown in [Figure 1-7](#).

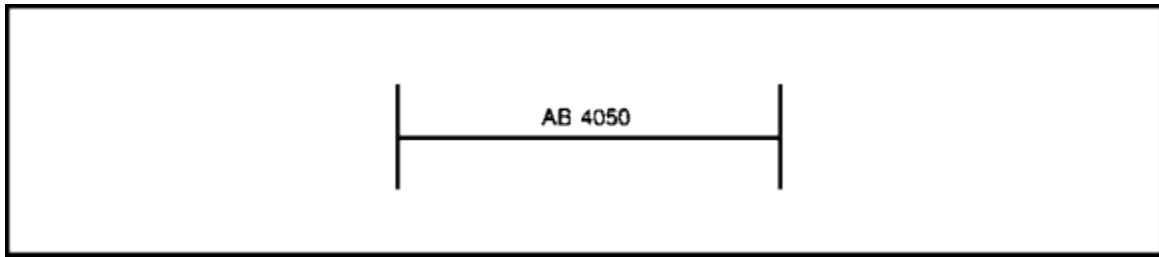


Figure 1-7. Linear target graphic symbol

- Offensive Application. These targets can be used to screen flanks with smoke or high explosives along attack axes. They should be used to attack enemy counterattack formations along high-speed avenues of approach.
- Defensive Application. Linear targets can be used to destroy enemy attack echelons as they approach defensive positions. They may also be used with smoke in addition to the FPF to disrupt echelons as they attack.

A group of targets consists of two or more targets on which simultaneous attack is desired by the maneuver commander. For field artillery fires, the direct support battalion is the lowest level that can designate and implement a group of targets. The FSO requests the group. Targets included in a group may be attacked individually. A group of targets is portrayed graphically by circling the targets and identifying them with a group designation, as shown in [Figure 1-8](#). The group designation consists of the letters assigned to the supported unit with a number inserted between them.

- Offensive Application. Group targets are used to engage several targets close together to create a shoulder or an assailable flank, or to isolate enemy positions as the company attacks other positions.
- Defensive Application. A group can be used to engage enemy forces stopped at minefields and obstacles, or to engage vehicles at minefields waiting to cross rivers. Individual targets in the group would be selected based on how you envision the enemy forming at these activities.

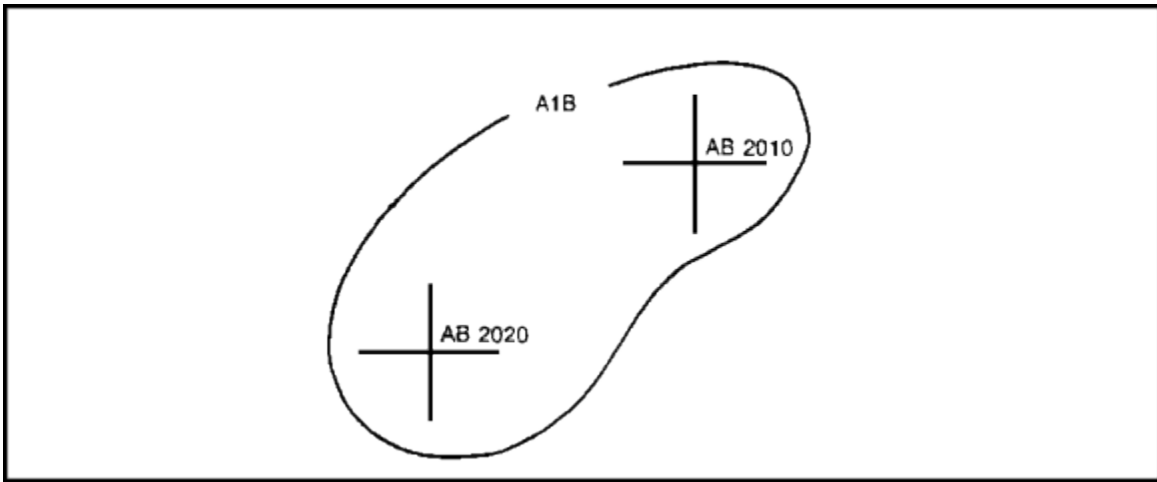


Figure 1-8. Group target graphic symbol

A series of targets is a number of targets or groups of targets planned to be fired in a predetermined time sequence to support the scheme of maneuver. A series may be either on-call or scheduled. Phasing of targets within a series is requested by the initiator or determined by the fire planner based on the nature of the targets and the desires of the supported commander.

Phasing of targets may be either on-call or scheduled. The direct-support battalion is the lowest level authorized to designate a series of targets.

A series is shown graphically as individual targets or groups of targets within a circular area, as shown in [Figure 1-9](#).

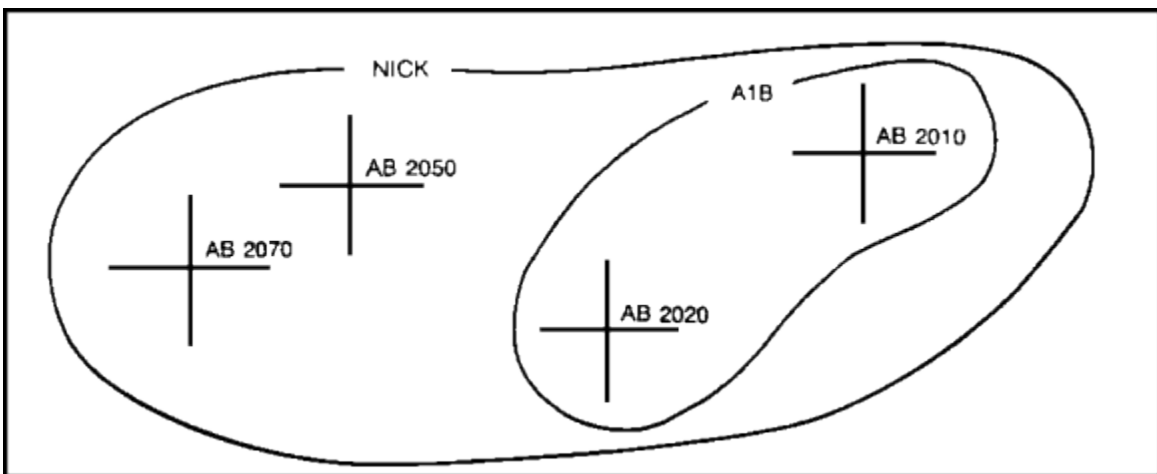


Figure 1-9. Series target graphic symbol

The series is given a code name by the direct support field artillery battalion.

- Offensive Application. The series may be planned to support the assault on an objective. A series allows fires to shift automatically to engage individual targets or groups of targets as the company fights across an objective.

- Defensive Application. The series allows fires to be tied to the speed of the enemy attack. A series of linear targets may be planned to engage enemy attack echelons, such as firing linear targets 1,000 meters apart (three minutes at 20 kph).

(g) Preparation. The preparation is planned by the direct support field artillery battalion or a higher echelon. It is an intense volume of fire, delivered in accordance with a time schedule to support an attack. The fires normally begin prior to H-hour and may extend beyond it. They may start at a prescribed time or be held on call until needed. The duration of the preparation depends on many factors including fire support needs of the entire attacking force, number of targets, firing assets, and ammunition available.

A preparation is normally phased to permit successive attacks on certain types of targets. The first phase should provide for the early attack of hostile fire support means and observation systems. The second phase should include enemy CPs, communications facilities, assembly areas, and reserves. The final phase should pose an immediate threat to the defending force. Plans should be made to suppress enemy fire support means and other critical targets throughout the preparation, time, and ammunition permitting.

(h) Counterpreparation. The counterpreparation is planned by the direct support field artillery battalion or higher echelons. Counterpreparation fire is intense, prearranged fire delivered just before the start of an enemy attack.

(i) Final Protective Fires. FPFs are immediately available, planned fires that create a barrier to enemy movement, especially dismounted infantry approaching across defensive lines or areas. These areas are integrated with defensive plans. The pattern of FPF plans may be varied to suit the tactical situation. FPFs are drawn to scale on the target overlay. The size of the FPF is determined by the number and type of weapon used to fire the FPF.

The dimensions of final protective fires provided by various weapons are shown in [Figure 1-10](#).

<u>WEAPON</u>	<u>SIZE (METERS)</u>
81-mm Mortar (4 tubes)	100 x 35
107-mm Mortar (3 tubes)	150 x 40
107-mm Mortar (6 tubes)	300 x 40
155-mm Howitzer (4 guns)	200 x 50
155-mm Howitzer (6 guns)	300 x 50
155-mm Howitzer (8 guns)	400 x 50
203-mm Howitzer (3 guns)	200 x 50
203-mm Howitzer (4 guns)	400 x 50
203-mm Howitzer (6 guns)	500 x 50
203-mm Howitzer (8 guns)	800 x 50

Figure 1-10. Final protective fire dimensions

The commander is responsible for the precise location of FPFs. The company FSO—

- Reports the desired location of the FPF to the supporting FDC.
- Adjusts indirect fire on the desired location, by weapon.
- Transmits the call to fire FPF to the supporting FDC.

Authority to call for the FPF is given to the commander (normally the company commander or platoon leader) in whose area the FPF is located. The FPF has the highest priority of any target assigned to a fire support means.

(j) Registration. Registration fires allow indirect-fire units to correct firing data and ensure more effective engagement of subsequent targets. Registrations are conducted by the firing units and their observers after coordination with the FSO and the company commander. They can be fired into offset areas on the flanks for deceptive purposes and may be integrated with other firing to further disguise their nature. Priority targets should be registered whenever possible.

(k) Suppression. Suppressive fires may include both direct and indirect fire. They are planned and delivered to suppress the enemy, or to hamper his operation and limit his ability to perform a mission. Suppression generally lasts only as long as firing continues. "Immediate suppression" is announced in the call for fire, indicating that the observer's unit is receiving effective enemy fire, and his fire request should be processed without delay.

(l) Use of Special Munitions. Obscuration fires use smoke and white phosphorus ammunition to suppress the enemy by obscuring his view of the battlefield. High explosive ammunition may also obscure his view with dust and fires but should not be relied on as the primary means. Because smoke is subject to changes in

wind direction and terrain contours, its use must be coordinated with other friendly units affected by the operation. Used properly, obscuration fires can—

- Slow enemy vehicles to blackout speeds.
- Obscure the vision of enemy direct-fire weapon crews.
- Reduce accuracy of enemy-observed fires by obscuring observation posts (OP) and CPs.
- Cause confusion and apprehension among enemy soldiers.
- Limit the effectiveness of the enemy's visual command and control signals.

Screening fires are closely related to obscuration fires. They also involve the use of smoke and white phosphorus. However, screening fires mask friendly maneuver elements to disguise the signature of their operations. For example, they are used to screen river crossings or an enveloping force. Screening fires may assist in consolidating an objective by placing smoke in areas beyond the objective or they may be used to deceive the enemy into believing that a unit is maneuvering when it is not. Generally, screening fires require the same precautions as obscuration fires. Smoke screens must be large enough so that random enemy firing into them does not produce excessive casualties. Also avoid establishing a pattern of using smoke with maneuver, such as habitually firing smoke two kilometers in front of troops.

Illumination may be scheduled or on-call, and is used to—

- Allow use of friendly direct-fire weapons and adjustment of indirect fires.
- Illuminate areas of suspected enemy movement.
- Orient moving units.

(m) Rehearsal and Execution. Once the fire support plan has been developed and coordinated, it should be rehearsed. As the company team conducts rehearsals of the maneuver, the fire platoon is concurrently rehearsed. The target list is executed as the maneuver is conducted, fires are requested (though not actually executed by the firing batteries) just as they would be during the operation. Under ideal circumstances, FPF could be adjusted during the rehearsal. Rehearsals on the terrain reveal any problems in visibility, communications, and coordination of the fire support plan. Rehearsals should be conducted under degraded conditions (at night, buttoned up, in MOPP 4) to make sure the plan can be executed in all circumstances.

If time or conditions do not permit full-scale rehearsals, key leaders can meet, preferably at a good vantage point, and brief back the plan. A sand table depiction of the terrain is useful here. Each player explains what he does, where he does it, and the fall-back plan to overcome key-leader casualties. The fire support plan execution is integral to this process and is rehearsed in exactly the same way.

If all else fails, the company team relies on the SOP for maneuver and fire support execution. This should not be the normal procedure as it allows the greatest possibility of error. The company team SOP should specify the responsibilities of all key leaders and who performs those responsibilities if the primary person is unavailable (casualty, vehicle breakdown, or communications failure).

As the operation is conducted, the fire plan is executed. Targets are fired as required and adjustments made because of enemy reactions. Priority targets are canceled as they are passed by friendly units or no longer relevant to the maneuver. The FSO and his FSV have four options for location on the battlefield:

- Option 1: FSO and FSV collocated with the company team commander.
- Option 2: FSO collocated with the commander but the FSV (and on-board laser designator) located at a separate vantage point on dominant terrain.
- Option 3: FSO and FSV located at a separate location from the commander at a vantage point from which he can best observe the target area to execute priority fire missions.
- Option 4: FSO and FSV located outside the company zone with the COLT.

Regardless of his location, the FSO continues to—

- Maintain communications with the task force FSE.
- Update the task force FSE and artillery FDC on friendly unit locations.
- Update the fire support plan, canceling unnecessary targets.
- If given the responsibility by the maneuver commander, direct the displacement of the mortar platoon when it is attached to the company team.

(n) Communications. The FSO monitors four radio nets:

- Company Command Net FM (Voice). Tank platoon leaders, the XO, and attachments use this net to send reports, receive instructions, and request fires. Any COLTs attached to the company monitors this net. The company headquarters is the NCS.
- Task Force Mortar Fire Direction Net FM (Voice or Digital). Observers use this net to request fires of the battalion mortar platoon. Other stations on the net include the FIST headquarters and the battalion FSE. Although this is the primary net for the platoon FOs, they enter the battalion fire support net for voice coordination. The battalion mortar platoon is the NCS.
- Battalion Fire Support Net (Voice). This net is used for voice coordination of fire support. Stations in the net include the FIST headquarters, attached COLTS, and the battalion mortars. The battalion fire support station (FSS) is the NCS. FOs enter this net for voice coordination purposes. Company

and battalion FSOs operate on this net when separated from their FSSs. This net can be used as a backup field artillery fire direction net (voice) to the field artillery digital fire direction net. During the execution of the fire plan, maneuver commanders can use this net to make an immediate change in the priority of fires. This is the net that the company team commander uses in emergencies to get fires. Keep this frequency handy.

- **FA Fire Direction Net FM (Digital).** This net is used for field artillery fire direction. The FIST headquarters may digitally forward calls for fire from its observers on this net. The direct support battalion FDC is the NCS. When a COLT is present, it uses this net to request field artillery fires. Also the battery FDC and battalion FSS are on the net.

(o) **Fire Support Coordinating Measures.** Measures that facilitate the attack of targets are permissive measures. All permissive measures are drawn and lettered in black. If the company team crosses an active permissive fire line, it is vulnerable to attack from friendly air and artillery. Report approaching and crossing these lines on both artillery and task force command nets so that the measures can be adjusted or canceled. Specific permissive measures are:

- **Coordinated fire line (CFL)**—line beyond which all surface-to-surface fire support assets may fire without additional coordination. A CFL may be established by a maneuver battalion operating independently, but normally is established by brigade or higher headquarters. The graphic symbol for the CFL is shown in [Figure 1-11](#).

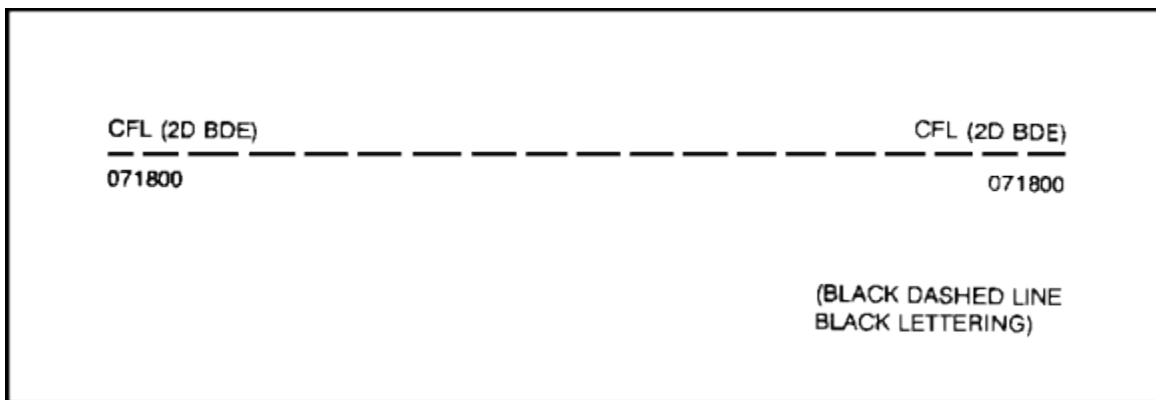


Figure 1-11. CFL graphic symbol

- **Fire support coordination line (FSCL)**—line beyond which all targets may be attacked by any weapon system without additional coordination, as long as the effects of those fires do not affect personnel short of the line. Normally established on identifiable terrain by corps or independent divisions. The graphic symbol for the FSCL is shown in [Figure 1-12](#).

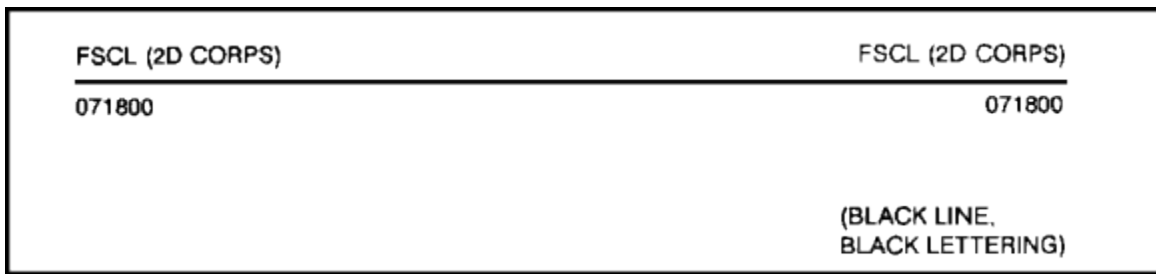


Figure 1-12. FSCL graphic symbol

- Free-fire area (FFA)—area in which any weapon system can fire without additional coordination. It is normally established on identifiable terrain by division or higher headquarters. The graphic symbol for the FFA is shown in [Figure 1-13](#).

Those measures which provide safeguards for friendly forces are restrictive measures. All restrictive measures are drawn and lettered or numbered in red. Specific restrictive measures are:

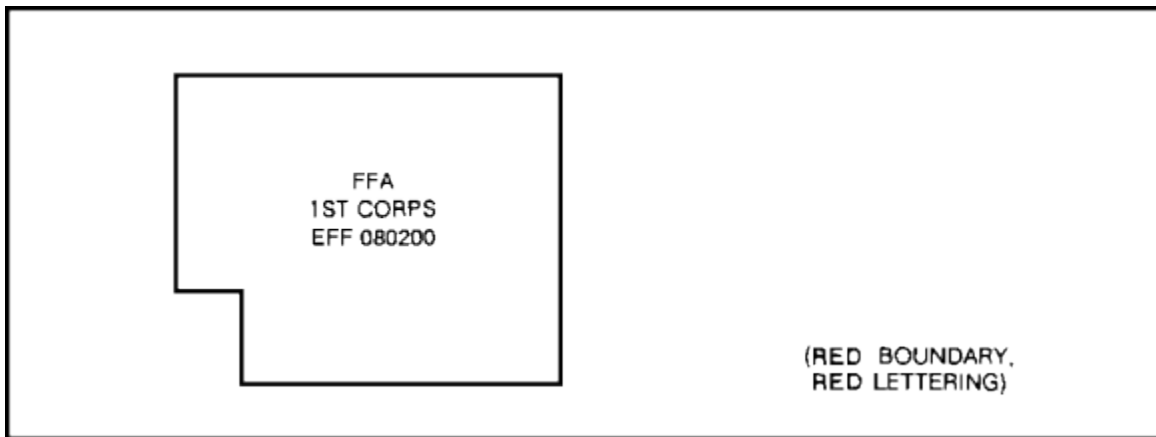


Figure 1-13. FFA graphic symbol

- Restrictive fire area (RFA)—an area with specific restrictions. Fires that exceed those restrictions are not delivered without coordinating with the establishing headquarters. An RFA is normally established by battalion or higher headquarters. The graphic symbol for the RFA is shown in [Figure 1-14](#).

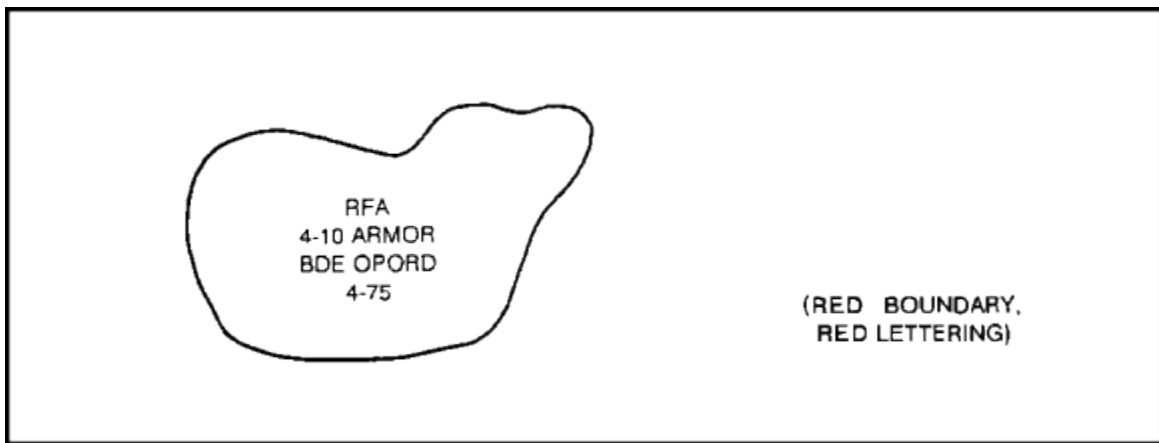


Figure 1-14. RFA graphic symbol

- Restrictive fire line (RFL)—a line between two converging friendly forces. No fires or effects of fires (direct or indirect) can be executed across an RFL without coordinating with the affected force. An RFL is normally established on identifiable terrain by the commander common to the converging forces. The graphic symbol for the RFL is shown in [1-15](#).

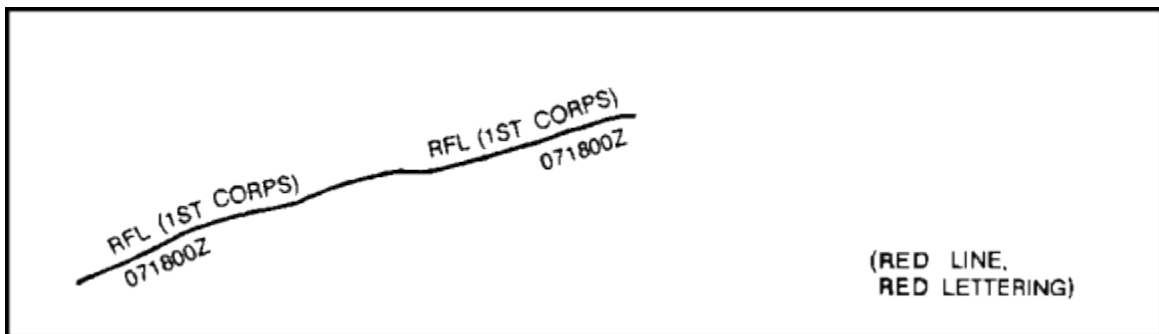


Figure 1-15. RFL graphic symbol

- No-fire area (NFA)—area in which no fires or their effects may be delivered except on a mission-by-mission basis after coordinating with the establishing headquarters. Fires are allowed if friendly forces are attacked by the enemy and if, in the opinion of the senior soldier on site, there is no time to coordinate with the establishing headquarters. An NFA is normally established by division or higher headquarters. The graphic symbol for the NFA is shown in [Figure 1-16](#).

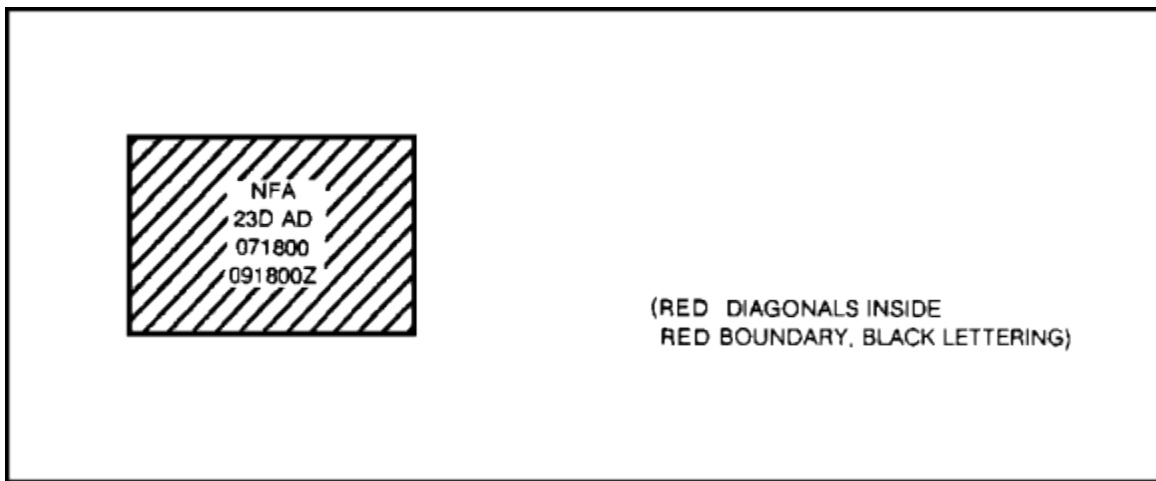


Figure 1-16. NFA graphic symbol

- Formal airspace coordination area (ACA)—a block of airspace allowing relatively safe travel of aircraft to facilitate the simultaneous attack of targets by both aircraft and indirect fire assets. ACAs are established by brigade or higher headquarters. The graphic symbol for the ACA is shown in [Figure 1-17](#).

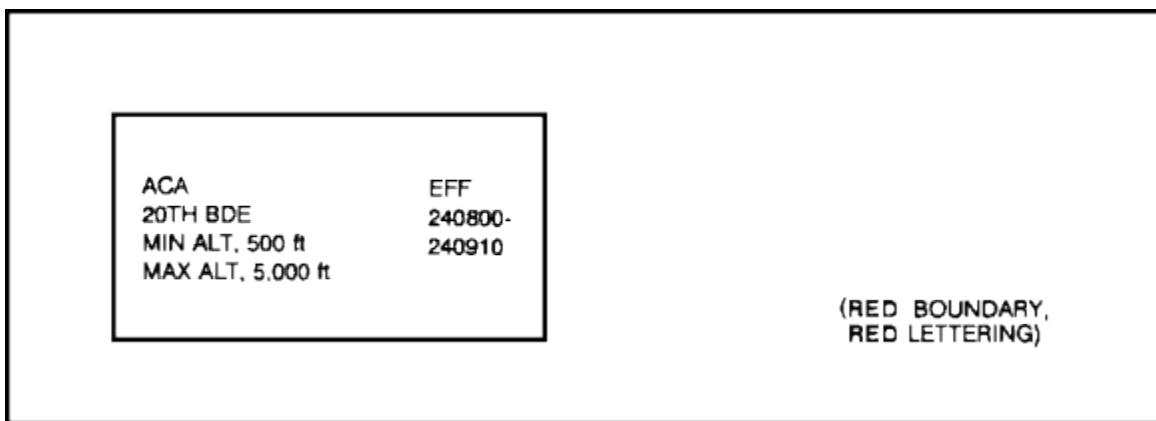


Figure 1-17. Formal ACA graphic symbol

- Informal ACA—normally used for immediate air strikes when time is not available for the formal measure. It can be a time-distance separation or a terrain feature separation of the attacking air and surface fires. ([Figure 1-18](#) shows a sample informal ACA in which air fires are allowed only to the north of the road from 0905 hours to 0910 hours.) The informal ACA can be established at task force or higher level. The graphic symbol for the informal ACA is shown in [Figure 1-18](#).

(3) Close Air Support. US Air Force close air support (CAS) provides additional fires. Each battalion task force is augmented with a TACP from the US Air Force.

- d. Intelligence. The intelligence system at company level basically boils down to three items:
- Use of the S2 R&S plan.

- Company patrols.
- Individual reporting and surveillance tasks.

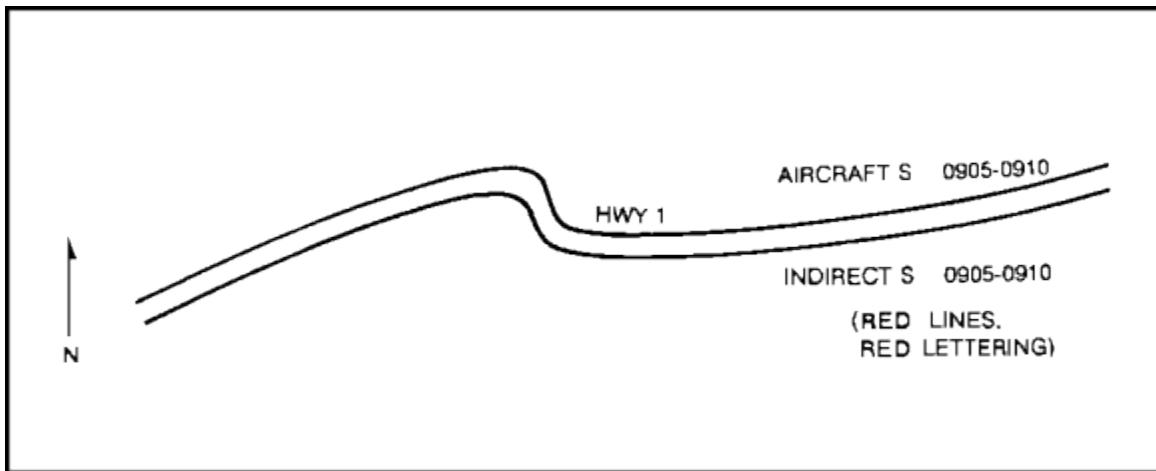


Figure 1-18. Informal ACA graphic symbol

The company has limited assets with which to gather intelligence. However, all units have a responsibility to report information about the enemy gained in the normal course of operations. Heavy reliance must be placed upon patrols at the company level. Patrols normally are coordinated with the S2. Through his R&S plan, he actually may direct where patrols go. This does not negate the commander's responsibility to use patrols where he needs them for his own security. Platoon early warning systems (PEWs) should be considered also, particularly in defensive operations. OPs are another valuable tool that the commander can use particularly for early warning. Other items such as GSR may, in some cases, be attached to the company but are normally direct support (DS) to higher levels. The task force has only the scout platoon and infantry patrols dedicated to gather information. Most of the information about the enemy comes from the S2 intelligence reports, platoon reports, and your own observations. Artillery FDCs have information about the enemy. Obtain this information from the FSO. Additional information about the enemy and area of operations is available from adjacent and supporting units.

The battalion S2 provides information about the enemy, terrain, and weather. The S3 provides specific taskings as part of the battalion task force reconnaissance, counterreconnaissance, and surveillance plan. The task force S3 is responsible for integration of the battalion task force reconnaissance and surveillance plan. Convert the taskings into missions for the company team and include this in the order.

The commander is the company team intelligence officer. He must actively seek information about the enemy, terrain, and weather from all sources available. Use patrols and observers to fill in gaps in the sector.

Intelligence and reconnaissance elements habitually operate in or to the front of the company team. The battalion scout platoon, GSR, and other intelligence assets may be attached to the unit for a specific mission. Know what the most typical of these units can do, how they can be employed, what their limitations are, and what support they need. (See [Figure 1-19.](#))

(1) Ground Surveillance Radar. Ground surveillance radar (GSR) may be attached from the divisional military intelligence battalion. Electronic warfare units operate in support of higher headquarters. The brigade provides intelligence to the task force that is beyond the task force's capability to collect.

The GSR platoon is part of the military intelligence battalion (CEWI). A GSR team consists of one vehicle (CUCV, HMMWV, or M113), an AN/PPS-5 or AN/PPS-15 radar, and three men. GSR is near all weather, line of sight, and surveillance systems. It can operate in rain, fog, smoke, light snow, and darkness. It can usually provide long-range surveillance in conditions which block thermal sights. (Heavy rain and snow degrade GSR performance.) The capabilities of the two radars are shown in [Figure 1-20](#).

GSR is normally controlled by the battalion S2, but may be assigned positions in the company sector or attached to the company. If GSR is employed in your sector, you may be tasked to provide food; security; fuel; petroleum, oils and lubricants (POL); medical; and vehicle evacuation support. Your responsibilities are defined in the specific coordinating instructions or intelligence annex of the operations order.

In some cases, GSR may be attached to the company. If so, provide the support required by this command relationship. Use the radars in any of several ways to support operations:

- Area reconnaissance—to monitor a large area like an avenue of approach into the sector or an exposed flank during offensive operations. The radar team should be deployed on high ground that provides good observation of the area, concealment, and routes into and out of the position. The radar team reports to the commander on the company command net.
- Point surveillance—to monitor a specific point like a road intersection, bridge, or mountain pass.

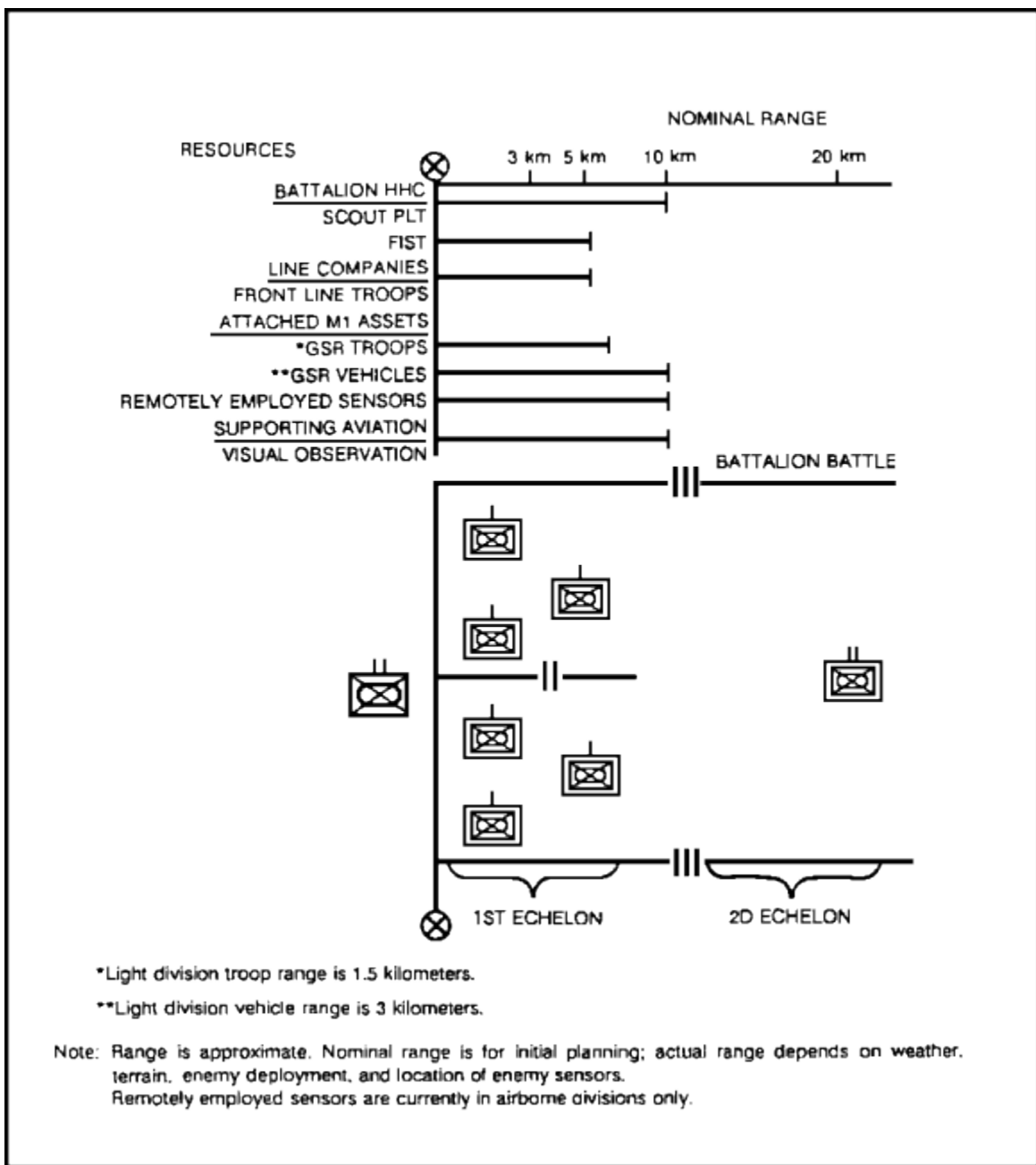


Figure 1-19. Battalion resources

	AN/PPS-5	AN/PPS-15
RANGE (km)	10	3
VEHICLES		
PERSONNEL	6	1.5
SCAN WIDTH	120°	120°
DATA PROVIDED	AZ/RANGE TO TARGET	AZ/RANGE TO TARGET

Figure 1-20. Capabilities of the AN/PPS-5 and AN/PPS-15

- Adjusting artillery or mortars—to detect the impact of indirect fires, can be used to adjust fires.
- Vectoring friendly movements—to monitor friendly troops on patrols or during attacks. Feedback can be given over company or platoon nets.

Intelligence from attached radars must be forwarded to the S2 on the appropriate net. GSR can be detected by enemy electronic warfare units. It can be located by direction-finding equipment and jammed. Consequently, it is not used continuously.

If the radars are attached, you are required to provide maintenance support for the common equipment (vehicle and radios). Military intelligence (MI) specific equipment, such as GSR, is evacuated through the MI battalion to the division support command (DISCOM). Provide all other CSS within your capability, just as you would for an assigned platoon.

(2) Scout Platoon. The scout platoon has six M3 Bradley cavalry fighting vehicles (CFV) or three M113s and three M901 ITVs. Some scout platoons are equipped with HMMWVs; the number of vehicles is dependent on the size of the unit. Normally, they operate under battalion control, but they may be task-organized to the company team if the mission dictates. For example, if the company team is responsible for the task force screen or detached to perform a flank screen or forward security force mission for the brigade, it may get the scouts.

When the scout platoon is task-organized to the company, there is specific guidance in the order for tasks that must be accomplished using scouts. Normally, the company FSO must coordinate fires for the scouts and he may accompany them to accomplish the fire support tasks specified in the task force plan. Provide other CS and CSS within the company team's capability.

Scouts provide information. They do not fight unless forced into engagement. The company team supports the scouts, either by direct overwatch or by limited counterattacks, to allow them to perform their mission. When the scouts work for the company team, the scout platoon leader monitors the company command net, not the battalion command net. You then pass their reports to the higher commander and the S2.

Scouts frequently lead during offensive movements. If frontages are particularly wide, the scout platoon may work the main avenue while mechanized infantry platoons reconnoiter other avenues. Tank platoons are kept concentrated, available to overwatch; reinforce or overwatch the withdrawal of the deployed scouts as the situation dictates.

In defensive situations, scouts identify and report enemy reconnaissance and infiltration efforts. Tank platoons reposition as necessary to intercept and destroy the enemy. To prevent fratricide, careful coordination and clear vehicle identification and marking systems are necessary when the scouts withdraw. A team commander is responsible for the safe passage of the scouts through any obstacles and EAs in the sector.

e. Air Defense. The battalion task force has no organic, dedicated air defense weapons. Normally, the minimum air defense provided to the battalion is a Stinger section or a Vulcan platoon. However, the task force often must rely solely on passive air defense measures such as concealment, camouflage, and dispersion coupled with the use of small-arms, machine guns, and even main tank guns as its means of defense. In addition, the task force can protect itself by following these guidelines:

- Erase vehicle marks.
- Establish a traffic pattern.
- Do not move around unnecessarily. Movement draws attention.
- Use air guards. Sentries must be given sectors to scan.
- SAFAD should be a last resort measure. Unless the enemy is attacking the company, the commander should withhold fire. If an aircraft attacks, the entire company team returns fire. Use volume fire and create a wall of lead for the enemy to fly into.

There may be occasions when the company team commander has some ADA assets working for him in his sector or zone. Normally, if anything is attached, it is a Stinger team. A Stinger team usually comes to the company with an HMMWV. There is usually a team chief and a gunner. Due to the limited protection and mobility characteristics of the HMMWV, the commander may direct the gunner to go with one of his armored vehicles and the HMMWV to follow with the trains. The commander also addresses a. priority of protection for the Stinger team. Actual positioning may not be the commander's concern rather, the priority dictates where the Stinger team must locate.

(1) Airspace Command. Airspace command and control procedures are issued by corps and coordinated down to task force. These measures are used to synchronize the efforts of Air Force, Army aviation, indirect fire, and ADA. This allows the commander to simultaneously apply the combat power of all systems. The S3 air coordinates

airspace command and control measures, and the S3 ensures that they complement the scheme of maneuver.

(2) Passive Air Defense Measures. An enemy pilot must see a target to engage it. Use cover and concealment to degrade the enemy's ability to acquire you as his target.

Enemy airmen identify positions by the following signatures:

- Track marks, especially if they are obviously fresh.
- Reflective surfaces such as windshields, headlights, goggles, map cases, field glasses, and sunglasses.
- Smoke, exhaust plumes, dust, lights, and contrasting colors.
- Movement.
- Freshly exposed dirt from a foxhole.

If enemy vehicles are in the area but have not attacked, halt the vehicles as close to concealment as possible. Reduce visual signature as much as possible and wait out the aircraft. Attack aircraft, both fixed-wing and helicopters, have limited loiter time over the target area.

(3) Active Air Defense Measures. The SOP must designate soldiers or vehicles to watch for enemy aircraft in assigned sectors. To alert the unit, observers use flags, hand-and-arm signals, or audible signals. Enemy aircraft normally fly low, often down valleys. Enemy helicopters usually appear from behind hill masses and engage at long ranges.

If an aircraft attacks, return fire. If the aircraft does not attack, it is engaged only on the company team commander's order. If supporting ADA elements engage the aircraft, the company team may engage with organic weapons. As a general rule, unless the aircraft is attacking the company, withhold fire and take passive defensive measures. Higher commanders may impose restrictions on air defense fires due to friendly aircraft in the area. Attack helicopters are very dangerous to armored vehicles. Engage attack helicopters with artillery if they have not identified your position. If you have been identified, engage attack helicopters with sabot rounds.

When the commander decides to engage the enemy aircraft and gives the order to do so, the company team engages with organic weapons using volume fire. Volume fire places a wall of lead in front of the target for the aircraft to fly into. Every weapon that can be brought to bear, including the tank main gun and 25-mm chain gun, is fired. Every gunner selects an aiming point and fires at that point.

(4) Weapons Control Measures. Air defense fires are controlled by the rules of engagement and by the weapons control status established by the area air defense commander. These are usually SOP items for the company team. The air defense crew or section leaders decide whether an aircraft is hostile (by visual observation, or the hostile criteria). Once hostile aircraft is identified, engagement is controlled by the weapons control status. A more restrictive status may be imposed but the use of a less restrictive

weapons control status cannot be directed. More restrictive measures are normally used when friendly CAS and helicopters are in the area.

The company FSO must alert the air defense crews when friendly CAS or helicopters are inbound to prevent the engagement of friendly aircraft. Weapons control statuses are —

- Weapons free—may fire at any aircraft not positively identified as friendly.
- Weapons tight—fire only at aircraft positively identified as hostile (according to the prevailing hostile criteria).
- Weapons hold—do not fire (except in self-defense or in response to a direct order).

(5) Air Defense Artillery Systems. ADA systems may work in your sector or zone. Be aware of their presence and be prepared to support them logistically, especially with medical coverage and vehicle recovery.

(a) Stinger Crew. The Stinger crew consists of two personnel in a high-mobility multi-purpose wheeled vehicle (HMMWV) with FM radios. The unit basic load (UBL) for a Stinger crew is six missiles. For planning purposes, the missile's range is five kilometers. Because of the prime mover's vulnerability to direct and indirect fire, the Stinger is best employed with overwatch elements. The air defense commander designates the crew's firing positions to meet the stated ADA priorities of protection and coordinates with the company team commander on the ADA crew's location within the area. If an ADA crew is supporting the company team, the crew chief coordinates with the commander for positioning of the crew's system to support the concept of the operation. The crew is an excellent source for early warning of approaching aircraft. Use this advantage when employing the organic weapon systems and when planning a defense against attacking aircraft.

Mobile air defense systems are available on occasion. If the mobility of air defense weapons is equal to that of tanks and APCs, they should be integrated into the formations.

(b) Vulcan Gun System Employment. In most instances, the Vulcan gun system is unable to maintain formation with tanks and BFVs. When the company team is reinforced with Vulcans, position them on the flanks and in preselected firing positions to make use of their limited range of 1,200 meters.

f. Mobility, Countermobility, and Survivability. Infantry units should be trained and prepared to execute mobility/countermobility/survivability missions with or without engineer support. Combat engineers may augment the battalion, providing expertise, equipment, and limited additional manpower. The engineer platoon leader advises the battalion commander as to employing his engineer assets. With or without augmentation, the battalion constructs obstacles,

emplaces and clears minefields, prepares demolitions, improves roads, provides bridging, and digs fighting positions.

All units can perform limited engineering tasks, such as digging two-man fighting positions and emplacing mines. Combat engineers provide additional mobility, countermobility, and survivability support to the task force. Engineers construct obstacles, emplace and clear minefields, prepare demolitions, improve roads, provide bridging, and dig fighting positions.

Depending on the engineer support available, the brigade commander normally places at least an engineer platoon, and usually an engineer company, in support of the task force. The engineer unit leader advises the commander on the employment of his unit. The S3 ensures that the obstacle plan supports the scheme of maneuver. Units must be able to operate under NBC conditions to survive and accomplish their missions. This requires that units apply and adhere to the NBC defense fundamentals—contamination avoidance, NBC protection, NBC decontamination.

The task force has decontaminating apparatuses which provide it a hasty decontamination capability. Additional support may be available from the division's chemical company that normally provides each maneuver brigade a decontamination platoon in direct support.

(1) Engineers. The engineer platoon normally is employed by battalion as a unit. However, the company team may have an engineer squad attached to it for certain missions. The squad consists of a squad leader (E6) and eight engineers riding in an M113. The squad normally has—

- A demolition kit.
- An engineer's tool kit.
- A carpenter's tool kit.
- A chain saw.
- A mine detector.

The engineer squad can provide its own local security while working. However, it accomplishes more if security is provided by the company team. While the engineer squad can construct, emplace, or breach obstacles, it is best used to provide advice and assistance while the company team provides the majority of the work force. The capabilities and limitations of the engineer squad are:

- Capabilities:
 - Breaching man-made obstacles (manual or explosive).
 - Constructing and emplacing obstacles.
 - Identifying possible bypass routes around obstacles.
 - Marking breached lanes in obstacles.
 - Integrating and controlling engineer equipment in the construction or breaching of antitank ditches and survivability positions.
 - Performing secondary mission as infantry.

- Limitations:

- Dependent upon the maneuver unit for Class IV and Class V materials to support the obstacle plan.
- Limited breaching equipment.
- Limited firepower if used as infantry.

Combat engineers have the skills and equipment necessary to enhance friendly mobility and survivability, counter the mobility of opposing forces, and sustain the force. Engineers provide technical expertise and special equipment. The company team normally provides necessary additional manpower.

Combat engineers provide four categories of support:

- Mobility support seeks to improve movement of the forces and critical supplies by reducing or eliminating the effects of obstacles.
- Countermobility support involves obstacle construction; reinforcement of terrain to delay, canalize, disrupt, and kill the enemy; and increase time for target acquisition and maximum effectiveness of direct- and indirect-fire weapon systems.
- Survivability support refers to the construction of protective positions including earth berms, dug-in positions, and overhead protection to reduce the effectiveness of enemy weapons.
- Sustainment engineering pertains to missions that do not directly contribute to the mobility, countermobility and survivability of committed maneuver units but are essential for the unit's firepower and logistical support.

Engineer units provide support to the company team using a command or support relationship as assigned by the task force commander.

(2) Equipment Used. In addition to specialized engineer equipment available from engineer units, other equipment that is useful in obstacle emplacement and removal is available at the company team. This equipment is described below.

(a) M88 Recovery Vehicle. While the M88 is not an engineer vehicle, its boom, winch, blade, and towing capability can be very useful in augmenting specialized engineer vehicles. The blade can push loose soil or rubble, and back blade berms spread out spoil from excavations. The blade cannot dig and is not designed to do the work of a dozer tank, CEV, armored combat earthmover (ACE), or D7 bulldozer. The winch, boom, and towing capability can be used in construction or removal of log obstacles, abatis, and tetrahedrons.

(b) 60A3 Blade Tank. In M60-equipped units, each company is authorized a blade kit for installation on one of the company's tanks. This blade has the same capabilities as the blade on the M728 CEV.

- (c) M1 Mine Plow and Rollers. These items are being fielded in MI-equipped units. They are very useful in breaching minefields but have some disadvantages. The mine plow seriously decreases mobility and agility of the host vehicle, takes time and equipment to install, and complicates recovery if the vehicle becomes inoperative or mired. The rollers have similar disadvantages.
 - (d) Vehicular Pioneer Tools. Shovels, axes, mattocks, tankers' bars, and other vehicular equipment can be valuable in enhancing the engineer effort.
- (3) Survivability. Use the following fighting positions to enhance survivability.
- (a) Vehicle Fighting Positions. If the time and engineer assets are available, the company should begin preparing vehicle fighting positions as soon as possible. The M9 ACE and the bulldozer from the engineers can be used to dig fighting positions. The company team must tell the engineers where the positions are to be dug, what orientation is needed for the position, and how the position will look once it is completed. This normally is done by the vehicle commander, after the commander and the platoon leader approve the location. Specify the amount of time a platoon can use the engineer equipment. Efficient use of scarce earth-moving equipment is critical to the mission. Task a subordinate to act as "Commander in Chief (CINC) bulldozer." He stays with the dozers to make sure they continue to work, are fueled, and mark and prepare positions for execution. Once the engineers begin digging the position, they must be supervised by a member of the company team, usually the vehicle commander.
- Digging should start from the enemy side of the position so most of the spoil can be moved to the rear of the position. The spoil should not be formed into a berm or placed in front or to the side of the position. A simple berm is difficult to camouflage and does not provide protection to a vehicle fighting position. The spoil should be either camouflaged or hauled out of the area.
- Excellent vehicle fighting positions allow a vehicle to occupy full hide, turret defilade, and hull defilade positions (see [Figure 1-21](#)).

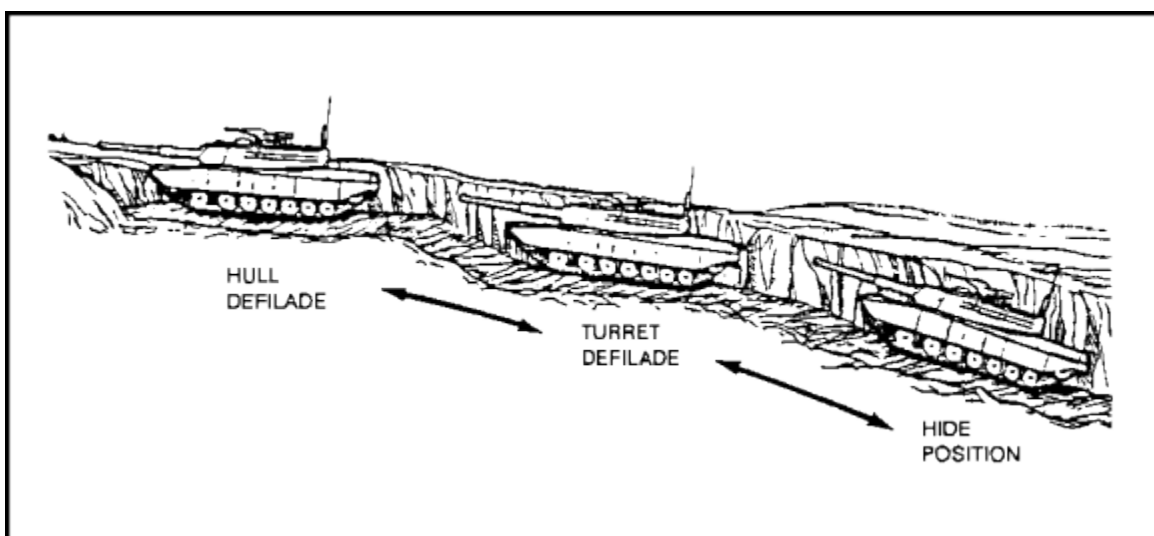


Figure 1-21. Construction of fighting positions

The best fighting positions also permit unobserved occupation or departure. Such positions occasionally occur naturally (see [Figure 1-22](#)), but usually must be developed with engineer assistance (see [Figure 1-23](#)). The most time-consuming positions to build are those that cannot use existing terrain. Such positions may be required by the tactical situation and must be very carefully sited to prevent wasted engineer effort (see [Figure 1-24](#)).

Fighting positions should be dug as wide as the vehicle with two to three feet on each side. [Figure 1-25](#) gives the dimensions for M1 and M2 positions. It takes approximately two to three hours to prepare a deliberate fighting position. Optimum use of the terrain decreases position construction times and allow maximum use of available engineer effort. A hasty fighting position (hull defilade only) takes approximately 30 minutes to construct with an M9 ACE or D7 bulldozer (see [Figure 1-26](#)).

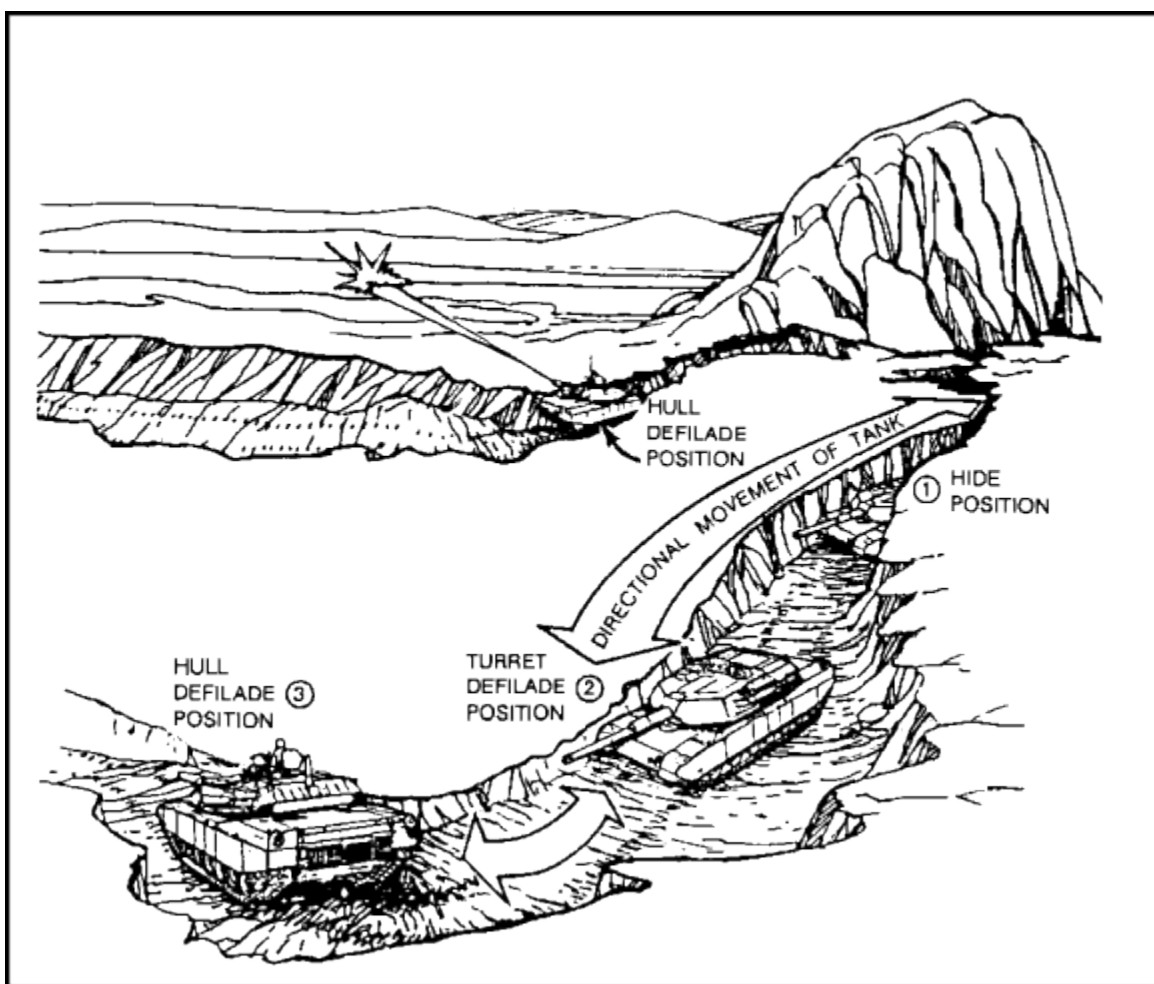


Figure 1-22. Natural fighting position

(b) Infantry Fighting Positions. When the rifle team defends, it prepares fighting positions. Fighting positions must provide cover and concealment and mutual support between fighting positions.

When time is short, a hasty fighting position is better than none. Hasty positions use whatever cover is available. They should give frontal protection from direct fire, yet allow firing to the front and flanks. For protection from indirect fire, a hasty fighting position should be as deep as possible, at least half a meter (18 inches) deep.

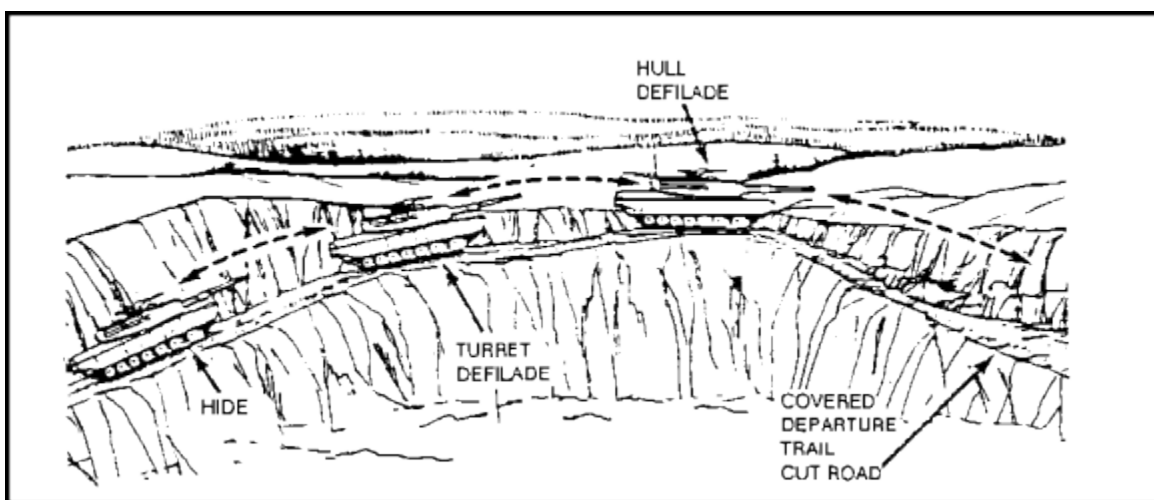


Figure 1-23. Enhanced natural position

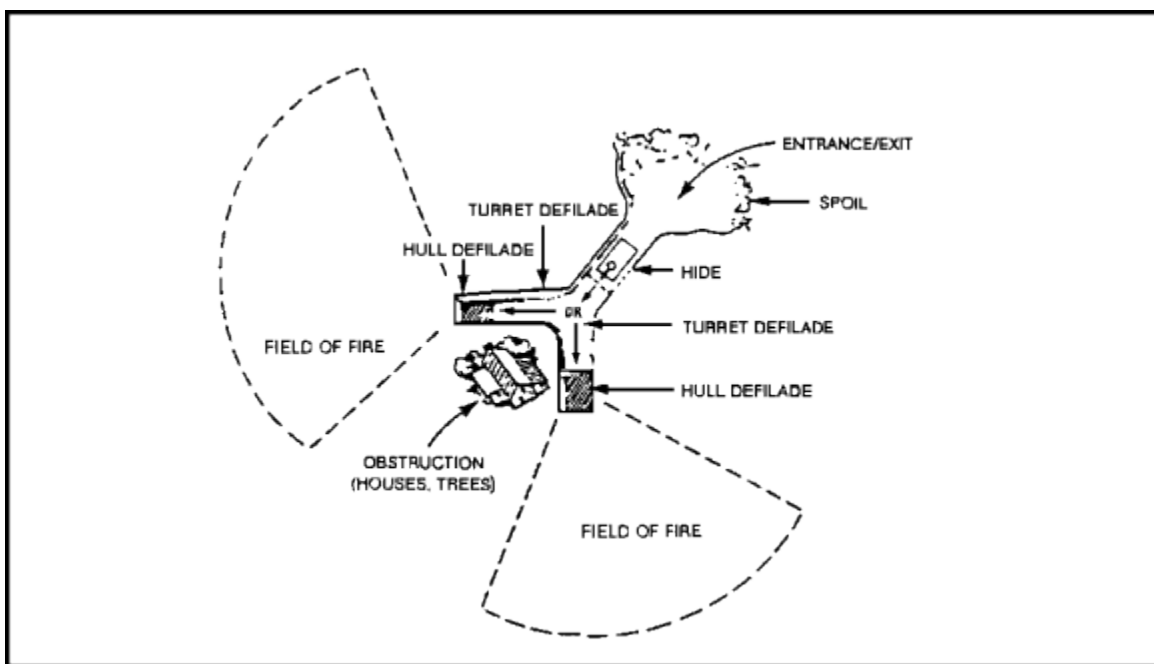


Figure 1-24. Top view of Y-shaped fighting position

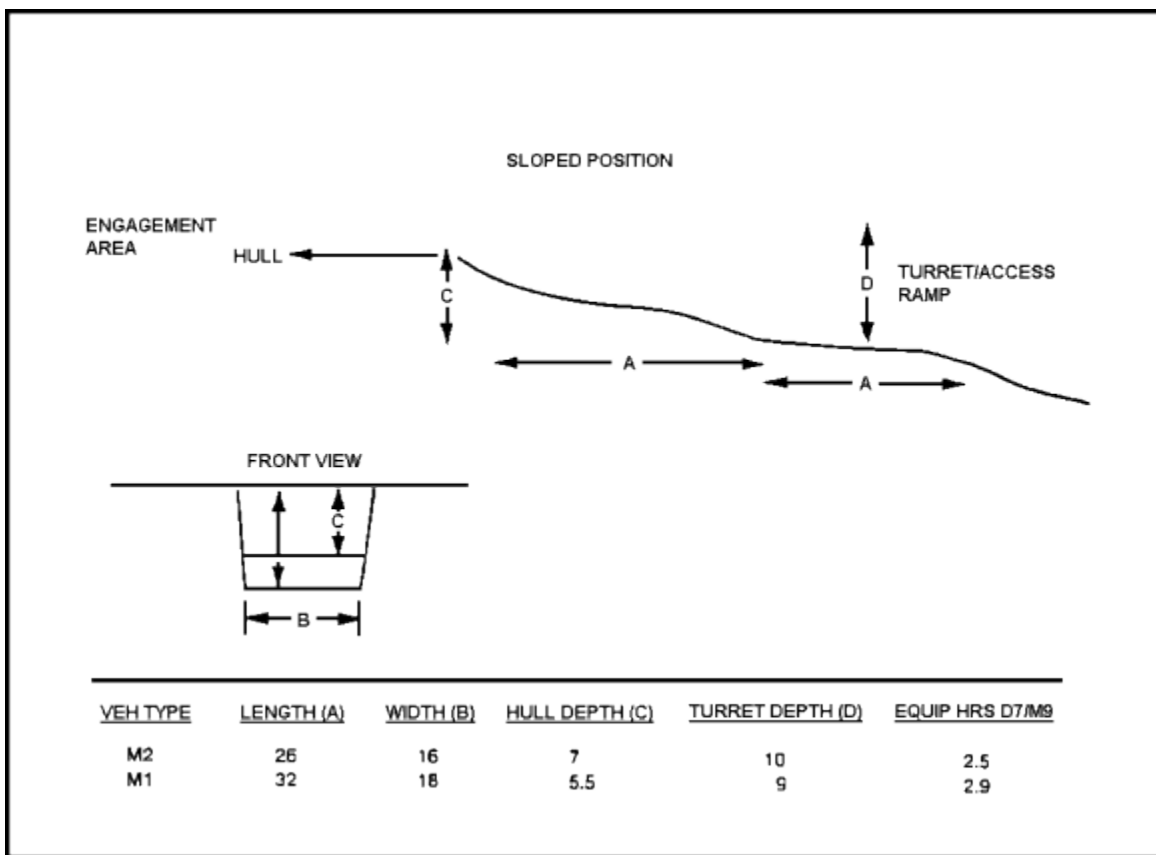


Figure 1-25. Sloped position



Figure 1-26. Prepared hasty fighting position (hull defilade only)

Fully prepared fighting positions should be dug armpit deep to protect the occupants and still let them fire the weapons. A one-man fighting position allows greater flexibility in the use of cover because the hole is smaller (see [Figure 1-27](#)).

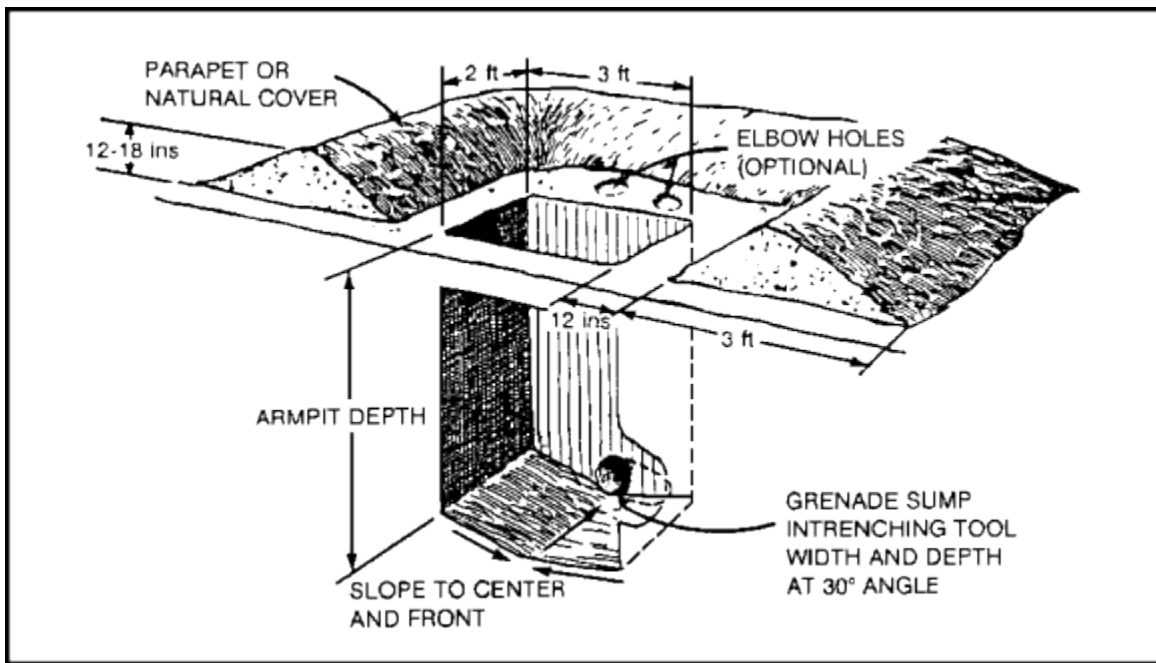


Figure 1-27. Infantry fighting position-one-man position (deliberate)

A two-man fighting position provides better security than a oneman position such as the one shown in [Figure 1-27](#). A modified two-man position may be prepared in close terrain, where grazing fire and mutual support extend no farther than adjacent positions (see [Figure 1-28](#)).

NOTE: Medium soft soil requires revetment in the lower pit only.

When preparing the position, leave enough distance between the hole and the frontal cover to let the soldier shoot from a supported position (elbows on the ground); elbow holes help stabilize the shooter's arms and lower his profile. Trenches or the bipod of an automatic rifle help support by putting the rifle close to ground level.

Aiming and sector stakes and grenade stakes and grenade sumps should be added to a prepared position. Aiming stakes help a soldier fire his rifle on dangerous avenues of approach at night. Sector stakes define the right and left sector of fire and prevent accidental firing into adjacent positions. The stakes should not be obvious enough to reveal the position.

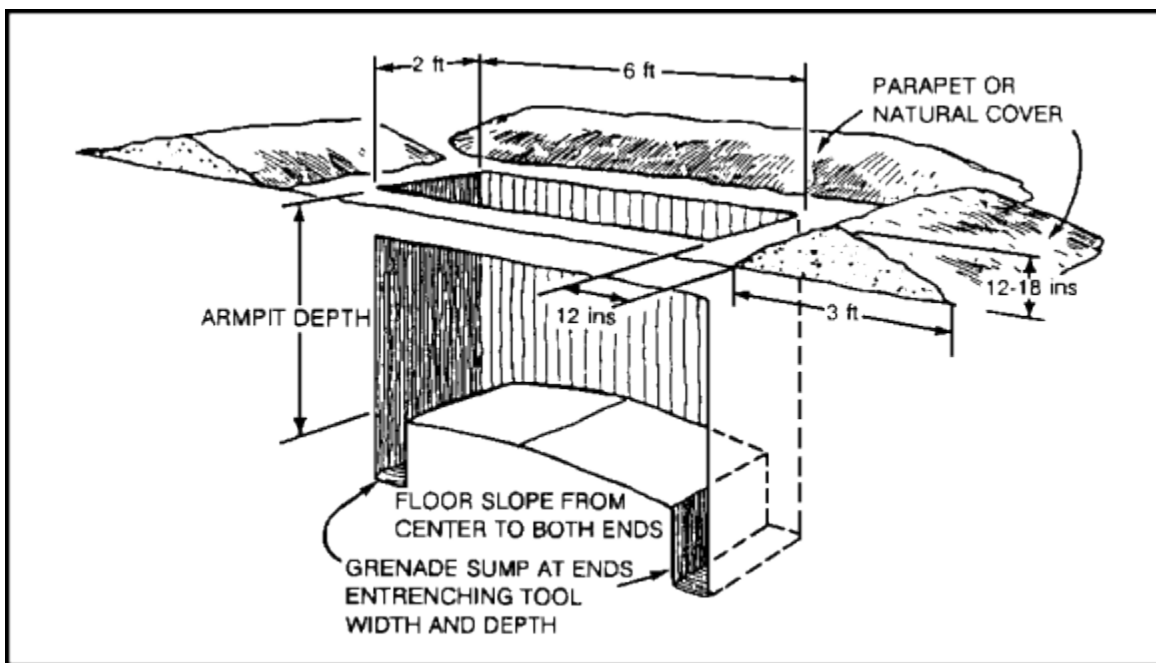


Figure 1-28. Infantry fighting position-two-man position (deliberate)

A trench-shaped hand grenade sump should be dug at each end of the position. The floor of the position should be shaped so it slopes toward the grenade sump. The sump should be dug as wide as the blade of an entrenching tool, at least as deep as the entrenching tool, and as long as the position is wide.

While frontal, flank, and rear cover give some protection from shell fragments, overhead cover should be built to protect from airbursts (see [Figure 1-29](#)). A good position has overhead cover that lets a soldier fire from beneath it. Support for overhead cover is built by placing logs 10 to 15 centimeters (four to six inches) thick on top of each other along the entire length of the frontal and rear cover.

The base of the overhead cover is made of logs 10 to 15 centimeters thick placed side by side across the supports. A water repellent layer, such as waterproof packing material from Dragon rounds, plastic membrane, or poncho, is then laid over the logs, as shown in [Figure 1-30](#).

About 15 to 20 centimeters (six to eight inches) of dirt is added, shaped to blend with the slope of the terrain, and camouflaged. When the position is complete, the soldier in the position has protection from shell fragments and is still able to shoot.

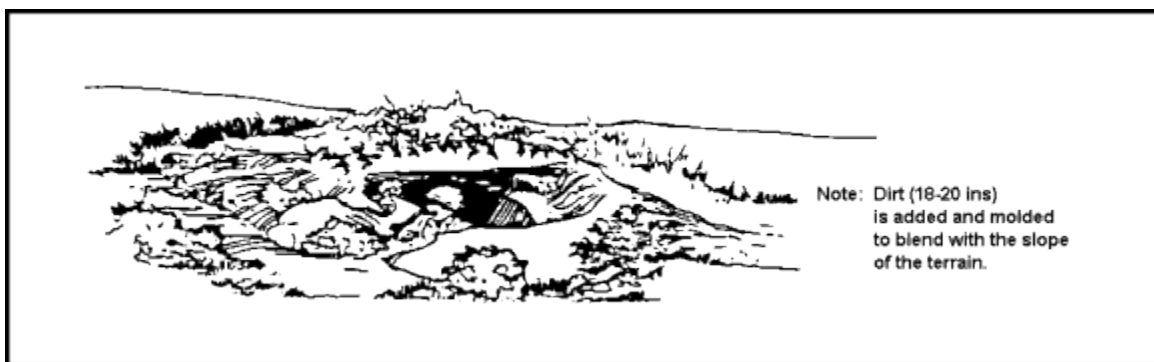


Figure 1-29. Overhead cover

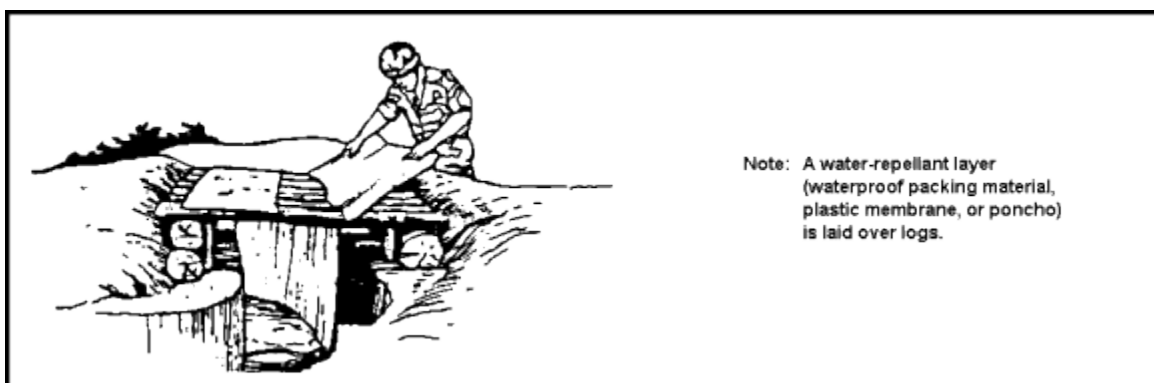


Figure 1-30. Waterproofing

Revetting is used in loose or wet soil to keep the sides from collapsing, as shown in [Figure 1-31](#). Anything that holds the walls (wire, logs, boards) can be used as long as it is staked

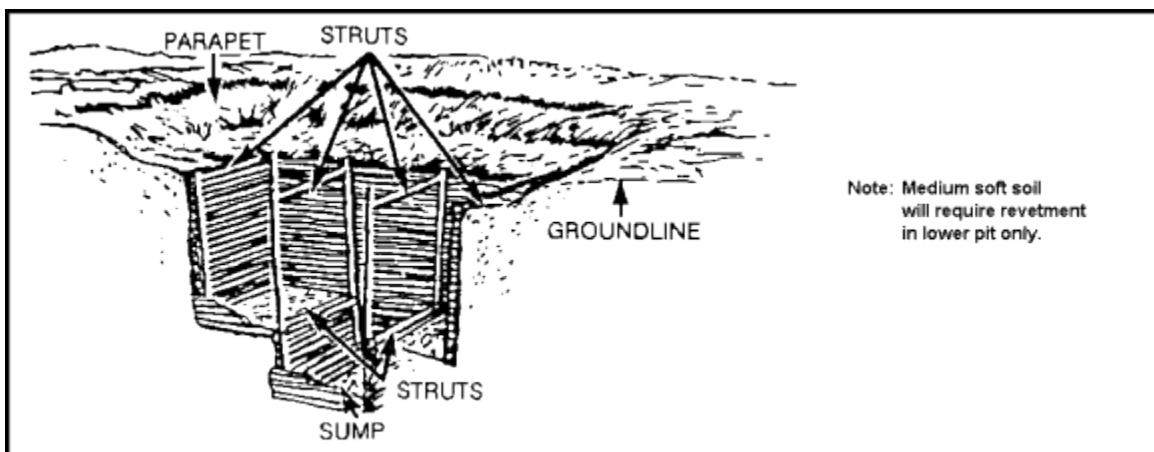


Figure 1-31. Revetment

and anchored. After anchor lines are attached, the stakes are driven into the ground.

The Dragon may be fired from hasty or improved positions. However, the backblast and muzzle blast must be considered when employing the Dragon. When the weapon is fired from an improved position, the muzzle end of the launcher must extend five centimeters (six inches) beyond the front of the hole. As the missile leaves the launcher, stabilizing fins unfold requiring at least 15 centimeters of clearance above the ground.

Dragon positions should be dug only waist deep to allow the gunner to move while firing. The position should be sited to cover its assigned sector of fire and protected to the front by natural or man-made cover. The ground in front of and behind the position should be free of rocks, sand, and debris to prevent a dust cloud (caused by backblast) from obscuring the gunner's vision and revealing the position.

If the Dragon needs to be fired in only one direction, a one-man fighting position is best. The Dragon should be positioned to fire to the oblique so it can be protected from frontal fire while the target is being engaged from the flank.

g. Combat Service Support. CSS is those actions taken to sustain the task force's ability to fight. The sustainment functions in combat are: manning, arming, fueling, fixing, transporting, and protecting.

The burden of providing CSS and CSS assets falls, as much as possible, on the battalion task force. This particularly hits home in the realm of Class III, V, and IX, as the company has no means to resupply these items. Resupply in these areas is of great importance if the company team is able to sustain combat operations.

Normally, the company team trains are organized into combat trains and field trains. The company combat trains include the XO's M113, the attached maintenance M113 and M88, and the M113 ambulance. This collocates with the company in the defense and follows one terrain feature behind in an attack. The company field train includes the company 2 1/2-ton trucks, HMMWV, and attached maintenance trucks. This normally is located with the battalion field trains.

The S1, S4, HHC commander, maintenance officer, medical platoon leader, and support platoon leader, supervise CSS operations. The XO monitors CSS during all phases of operations.

CSS organization begins at company level, but the burden of CSS is removed from the company team commander (the only organic CSS asset at company level is the supply section) and placed under control of the battalion task force. This allows the company team commander to concentrate on fighting to accomplish the tactical mission.

The company team's CSS responsibility is to report and request requirements and make sure CSS is properly executed when it arrives in the company area. The XO and first sergeant normally perform this function. They send personnel and logistical reports and other necessary information and requests to the rear.

The bulk of the tank and mechanized infantry battalion CSS assets are assigned to the HHC. Personnel and equipment (including POL assets) from the medical platoon, maintenance platoon, and transportation section of the support platoon are designated to support each maneuver company team's combat operations.

(1) Responsibilities. The company team commander is responsible for CSS of the company team. During combat operations, the XO and first sergeant help.

(a) Executive Officer. The XO is the CSS planner and coordinator. During preparation of the operation, he coordinates closely with the first sergeant to determine what is required and makes sure arrangements have been made for CSS to support the tactical plan. The XO assist the commander by performing precombat inspections while the commander and platoon leaders develop the tactical plan. Once the battle begins, the XO assists the commander in fighting the battle. He is mounted in his armored vehicle and stays abreast of the situation. In addition to his tactical requirements, the XO—

- Determines the general location for the company resupply point.
- Receives periodic maintenance updates from platoon leaders, platoon sergeants, the first sergeant, and the maintenance team chief.

(b) First Sergeant. The first sergeant is the CSS operator. He executes the company logistical plan, relying heavily on the company and battalion SOP. The first sergeant directly supervises and controls the company trains. He receives CSS reports from the platoon sergeants, provides information to the XO, and helps the XO complete CSS preparations and plan and conduct CSS operations. He also—

- Receives, consolidates, and forwards all administrative, personnel, and casualty reports to the task force combat trains.
- Coordinates with platoon sergeants and the XO for requirements.
- Directs the medical evacuation section and company maintenance team (CMT) forward when the situation requires.
- Dispatches maintenance and medical personnel when required.
- Renders reports and submits requests to the combat trains command post.
- Is responsible for the overall CSS of the company.
- During combat operations, vehicle commanders send fuel, ammunition, personnel, and maintenance reports to their platoon sergeant. The platoon sergeants consolidate the reports and send them to the first sergeant. The platoon sergeants consolidate the requests and sends them to the CBT TNS CP. During resupply, the first sergeant picks up LOGPACs from the LRP and brings it to the company or meets the LOGPAC at the LRP, guides them to the company resupply point and supervises the operations there. He positions LOGPACs.
- Establishes and organizes the company team resupply point.

- Orients new personnel to the company and assigns replacements to the platoons.
- Supervises the evacuation of casualties, enemy prisoners of war (EPW), and damaged equipment.
- Maintains the battle roster for the company.

(c) Supply Sergeant. The supply sergeant is the company's representative in the battalion field trains. He is responsible for routine resupply. He assembles the standardized LOGPAC and moves it forward to the battalion LRP in conjunction with the support platoon. Habitually, when the supply section moves forward under the control of the supply sergeant, the supply sergeant brings not only the requested items but routinely has his trucks loaded with such items as—

- One set of NBC overgarments and filters per individual.
- Class II items.
- One case of BA-30 batteries.
- One mile of WD-1 wire.
- Five complete sets of TA-50 stored in duffel bags.
- Other batteries, as necessary, for night vision devices.
- Small arms repair parts.
- 15 body (mortuary) bags.

Also, the supply sergeant has to be aware of alternative resupply means.

The supply sergeant follows the first sergeant to the company resupply point and assists in the resupply operation. He also—

- Requisitions Classes II, IV, VII, VIII, and IX items.
- Coordinates with the support platoon leader for Classes I, III, and V supplies.
- Maintains individual supply and clothing records
- Picks up personnel replacements at the task force field trains and prepares them for the first sergeant.
- Receives and evacuates killed in action (KIA) to the graves registration point in the brigade support area (BSA).
- Returns LOGPAC with EPW and damaged vehicles to the BSA for further disposition.

(d) CMT Chief. The CMT chief is assigned to HHQ but attached to the company. He—

- Organizes and supervises the CMT:
 - Battle damage assessment and repair (BDAR) procedures.
 - Mission-essential maintenance only (MEMO) procedures.
 - Maintenance time guidelines.

- Advises the XO and first sergeant on vehicle recovery, repair, and destruction.
- Ensures requests for repair parts are prepared and forwarded to the UMCP.
- Distributes repair parts when they are received.
- Supervises exchange and cannibalization when authority is delegated to him.
- Coordinates with platoon sergeants for maintenance status of their platoon (if not already provided by the first sergeant).
- Is responsible for recovery operations to the UMCP or other designated maintenance collection points.

(e) Aid man. The senior aid man is assigned to HHC but attached to the company. He—

- Supervises triage of wounded and ill (enemy and friendly).
- Advises the chain of command on wounded and ill.
- Provides first aid and stabilizes injured for evacuation.
- Evacuates seriously wounded under the direction of the first sergeant.
- Controls, issues, and requests resupply of Class VIII, including nerve agent antidote injectors.
- Trains soldiers in first aid procedures.
- Is responsible for the medical evacuation team operations.
- Advises the chain of command on field sanitation measures.

(2) Company Trains. During combat operations, the company habitually operates with the maintenance and medical teams forward (company combat trains). The remainder of its CSS elements operate from the battalion combat trains, UMCP, or the field trains in the BSA. The first sergeant is responsible for all the company trains, but directly supervises the company combat trains. The supply sergeant is the first sergeant's principal assistant and supervises the company's assets in the battalion field trains.

The company combat trains normally operate about 500 to 1,000 meters (or one terrain feature) to the rear of the company team to provide immediate recovery, medical aid, and maintenance. This allows maintenance and other essential CSS functions to be performed in covered and concealed positions behind the FLOT.

Usually, support during the battle is limited to medical and maintenance activities. Emergency resupply is performed by the first sergeant.

During a battle (defensive or offensive), the first sergeant continuously monitors the company command net and sends medical and maintenance support forward to the platoons. The first sergeant keeps the combat trains CP informed on a continuing basis, either by radio or messenger.

(3) Supply Function. The supply sergeant is responsible for obtaining and delivering supplies to the company. He delivers small items and depends on the assets of the support platoon to deliver bulky or high-expenditure items. Priorities for delivery are established by the company commander, but the demands of combat normally dictate Classes I, III, and V supplies as most critical to successful operations.

(a) Class I. Class I is rations and gratuitous issue of health, morale, and welfare items. Meals ready to eat (MREs) are stocked on board each vehicle in a basic load prescribed by SOP (usually three to five days). MREs and water are delivered daily to the company from the field trains by the supply section. Hot meals are served when possible. Water is provided from the water trailer brought forward by the supply sergeant. (Water is a critical item and must be replenished daily, especially when the unit is wearing chemical protective clothing.) Rations are automatically requisitioned and issued by the S4 section, based on daily strength reports sent to the S1 by the companies.

(b) Class II. Class II is clothing, individual equipment, tentage, tool sets, and administrative and housekeeping supplies and equipment. Class II items are requisitioned by the S4 based on needs identified by company sergeants. The supply sergeant normally receives these supplies in the field trains and moves them forward as required.

(c) Class III. Class III is petroleum, oil, and lubricants. Class III bulk and packaged products are delivered to the company by the support platoon. Resupply is accomplished from the battalion field trains as requested by the first sergeant. If oil tankers are attached to the company, they return to the Class III point in the BSA for refill as soon as the company has been refueled. Small amounts of packaged products (hydraulic fluid, lubricating oil) are stored on each combat and tactical vehicle. These are replenished from stocks on bulk fuel tankers.

(d) Class IV. Class IV is construction materials. Class IV items are requisitioned through command channels. Basic loads of materials required for the construction of individual fighting positions should be a part of each vehicle load plan and specified in the company team SOP.

(e) Class V. Class V is ammunition. Class V resupply is based on a report of expenditures submitted to the combat trains CP by the first sergeant. The ammunition is delivered to the company by the LOGPAC. Ammunition is prepositioned (in a defense or delay) or distributed as part of service-station or tailgate resupply.

(f) Class VI. Class VI is personal demand items sold through post exchanges. Class VI items requisitioned the S1 by the first sergeant.

(g) Class VII. Class VII is major end-items, Class VII items are requisitioned and issued through the S4. Crews are assigned and combat vehicles normally are moved forward as part of the LOGPAC convoy. When combat vehicles are required forward before the LOGPAC is scheduled to depart, the combat vehicles are led forward by the supply sergeant, if no one else is available. The first sergeant meets the crews and briefs them before they are committed.

(h) Class VIII. Class VIII is medical supplies. Class VIII items are provided by the medical platoon. Requests are submitted to the battalion task force aid station by the medics and issued to the medics by the aid station.

(i) Class IX. Class IX is repair parts and documents for equipment maintenance. Class IX items are requested through the prescribed load list (PLL) clerk. They may be delivered by LOGPAC or the maintenance platoon, or the maintenance platoon may have to return to the UMCP to pick them up.

Maps are requested from the battalion task force S4.

Company supply sergeants assemble the LOGPAC under the supervision of the support platoon leader or HHC commander in the battalion field trains. Replacements and soldiers released from the hospital are brought to the company on LOGPAC vehicles. Once the LOGPAC is prepared for movement, the supply sergeant tactically moves it as part of the task force resupply convoy led by the support platoon leader. In emergencies, a company LOGPAC may be dispatched individually to meet the first sergeant at a rendezvous point. This technique is not recommended because, when moving alone, the LOGPAC is very vulnerable to attack, loss of communication, and misorientation.

The task force LOGPAC convoy is met at the task force LRP by representatives from the combat trains and UMCP, company first sergeants, and platoon sergeants from specialized separate platoons when necessary. The first sergeant

-
- Turns in routine reports to combat trains representatives.
 - Turns in parts requisitions and the deadline status to the UMCP representative.
 - Picks up routine correspondence.
 - Awaits the LOGPAC.

The first sergeant or his representative meets the LOGPAC and then guides the LOGPAC to the company resupply point.

(4) Resupply Methods. The first sergeant establishes the company resupply point using either the service-station or tailgate method. The commander, or the XO, if delegated, decides on the method to be employed and informs the first sergeant. The first sergeant briefs each LOGPAC vehicle driver on the resupply method to be used. He also establishes the company team resupply point and notifies the commander that it is

prepared. The commander directs the platoons to conduct resupply based on the tactical situation. Either of these methods, or variations thereof, can be used for emergency resupply.

(a) Service-Station Method. When the servicestation method is used, individual vehicles move back to a centrally located rearm and refuel point, as shown in [Figure 1-32](#). Based on the enemy situation, one vehicle per platoon, section, or even an entire platoon pull out of their positions, resupply, and return to their positions until the company has been resupplied.

In this method—

- Tactical vehicles enter the resupply point following one-way traffic flow.
- Only vehicles requiring immediate unit or higher maintenance stop in the maintenance holding area before conducting resupply.
- If wounded in action (WIA), KIA, and EPW have not already been evacuated, they are removed from the platoon vehicles when the vehicles stop at the refuel or rearm point.
- Vehicles rearm and refuel moving through each point.
- Crews rotate individually to feed, pick up mail, pick up supplies, and refill or exchange water cans.

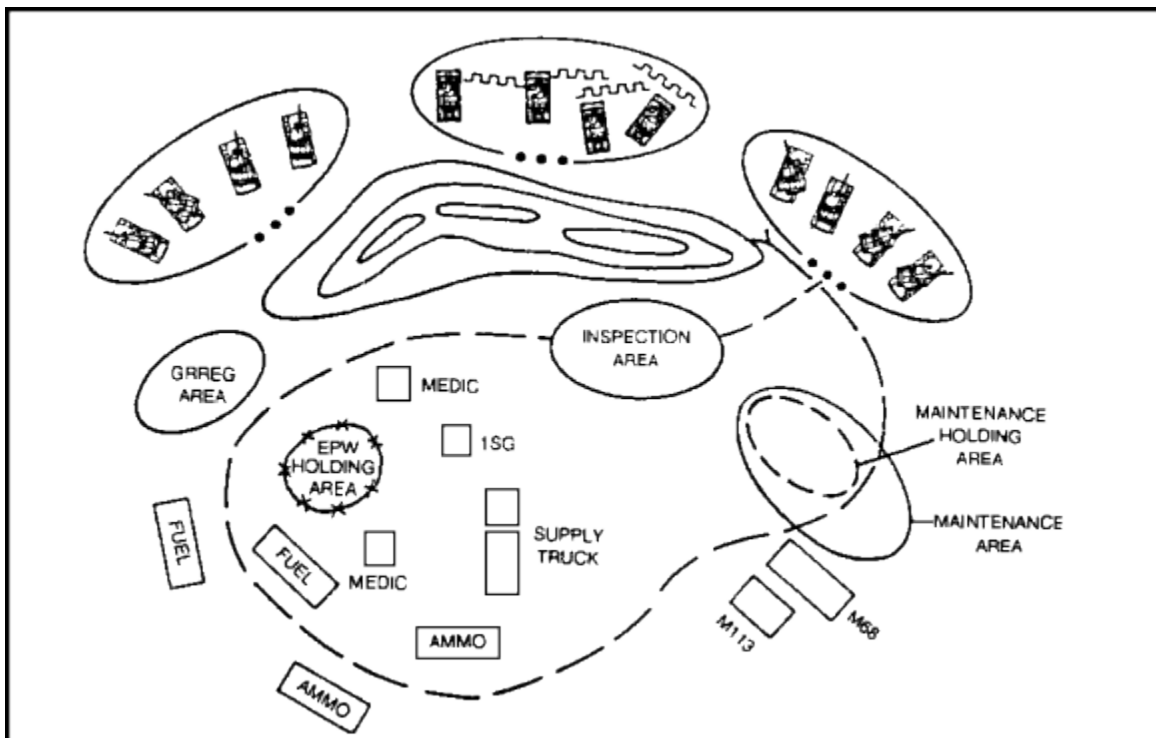


Figure 1-32. Service-station method

- When all vehicles have completed resupply, they move to the holding area where the platoon leader or platoon sergeant conducts a precombat inspection (time permitting).

NOTE: The medical evacuation vehicle is positioned an equal distance between the refuel and rearm points to decrease the number of stops a vehicle makes.

(b) Supply Point Distribution Method. In the supply-point distribution method, shown in [Figure 1-33](#), the receiving unit furnishes its own transportation. For resupply, combat vehicles remain in place or back out of their position a short distance so the resupply vehicle is not exposed. POL and ammunition trucks go to each vehicle position in turn and—

- Individual crewmen rotate through feeding areas and pick up supplies, water, and mail.
- KIA and personal effects are brought to the holding area by platoon personnel.

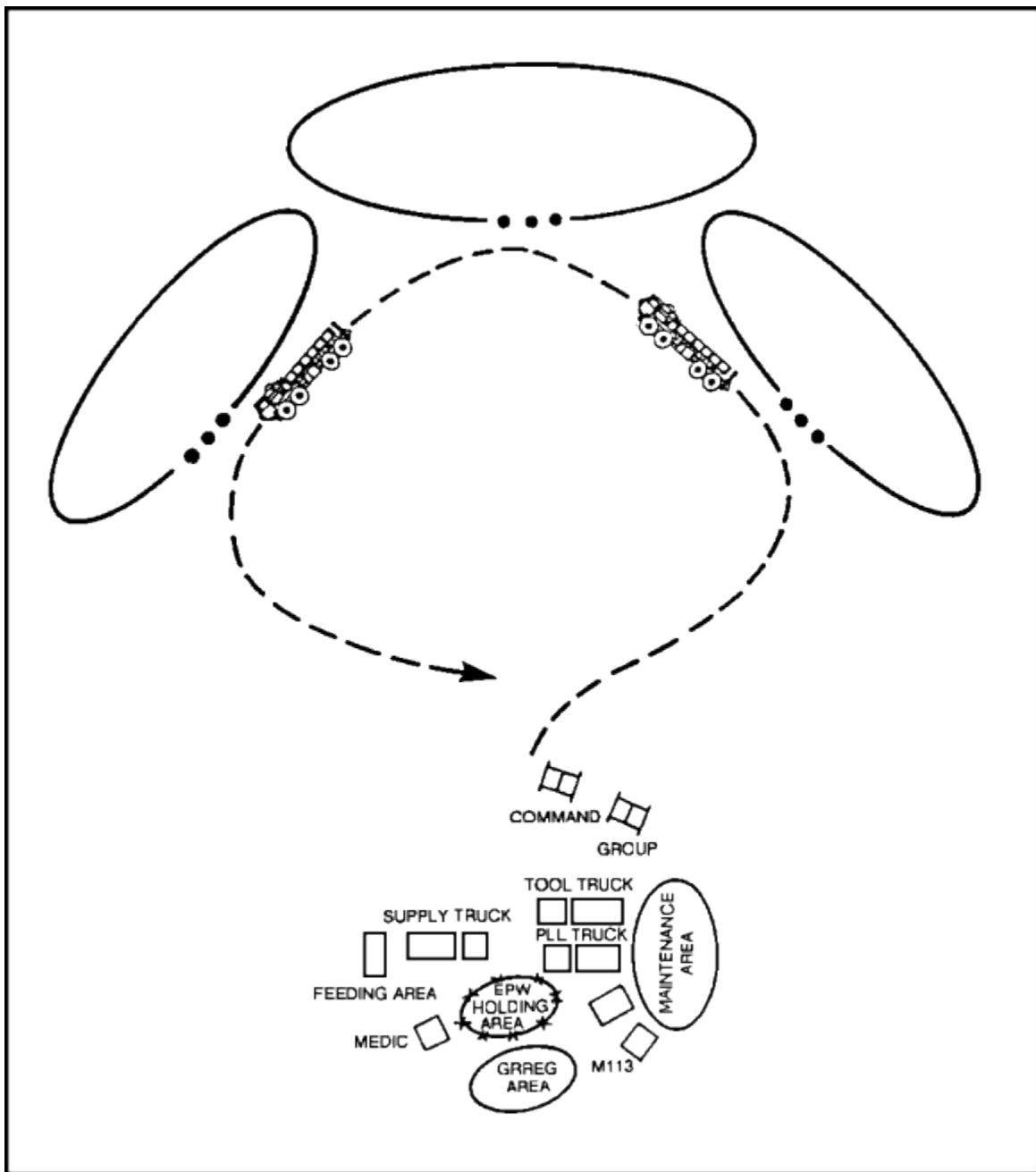


Figure 1-33. Supply-point distribution method

- Armored ambulances pick up critically wounded. Other wounded personnel either are carried or walk to the ambulances for first aid.
- EPWs are centralized and guarded.
- Vehicles requiring maintenance are brought to the maintenance area.
- Inspections are completed by the chain of command at each vehicle position.

NOTE: The supply-point distribution method is normally conducted in an assembly area only. If it is employed in forward positions, resupply must be masked by terrain. This procedure takes much longer than the servicestation method.

(5) Preparation of LOGPAC to Return to Battalion Trains. When resupply operations are completed, the LOGPAC vehicles are prepared for the return trip.

Preparations include:

- Vehicles requiring recovery for maintenance or salvage are prepared for towing and lined up (if not previously recovered to the UMCP).
- KIA are placed in mortuary bags or wrapped in blankets or ponchos and placed on fuel trucks, cargo trucks, or disabled vehicles.
- Slightly wounded (not already evacuated by air or ground ambulances) are put on cargo trucks or disabled vehicles for transportation to the LRP.
- EPW are consolidated on damaged combat vehicles or empty cargo trucks and guarded by walking wounded, infantrymen from cross-attached platoon, or other company team personnel.

The first sergeant or supply sergeant returns the LOGPAC to the LRP where it is met by the support platoon leader. When possible, the reunited task force LOGPAC convoy returns to the field trains together. When METT-T requires, a company LOGPAC is dispatched individually to the field trains. Returning a company LOGPAC individually is only slightly less hazardous than dispatching it forward on its own.

(6) Emergency Resupply. Occasionally, the company team may have such an urgent need for resupply that it cannot wait for a routine LOGPAC (normally a result of combat). Emergency resupply may involve Classes III, V, and VIII; NBC equipment; and, on rare occasions, Class I. The task force usually uses support platoon and medical assets located in the task force combat trains to conduct emergency resupply of company teams. Emergency resupply is often conducted while in contact with the enemy.

Consider the following special techniques:

- When platoons are under fire, limited supplies can be brought forward to the closest concealed position where the tailgate method can be used.
- Individual fighting vehicles drop back to resupply at the direction of the platoon leader and then return to fight. (If resupply is conducted during a lull in combat, the service station method may be appropriate.)

(7) Prepositioning Supplies. Prepositioning supplies is required in most defensive operations but, normally, only Class V items are prepositioned. The location and amount of prepositioned ammunition must be carefully planned and each vehicle commander must be informed. All leaders, down to tank commanders and squad leaders, verify the locations of the sites during their reconnaissance and rehearsals. When prepositioning supplies, consider—

- Covered and protected positions are needed for prepositioned ammunition.
- Prepositioning frees cargo vehicles to bring more ammunition forward.
- The company does not have the manpower to guard preposition sites and, therefore, risks the capture or destruction of prepositioned ammunition.
- Prepositioned ammunition must be far enough away from vehicles and individual fighting positions so its destruction does not cause friendly vehicle damage or personnel casualties.
- Prepositioning fuel is difficult and requires additional equipment including a quantity of fuel transfer pumps, drums or five-gallon cans, and covered sites separate from ammunition sites.

There are two main methods of prepositioning supplies:

- Method 1: Class V is located in one place inside the assembly area or battle position ([Figure 1-34](#)).

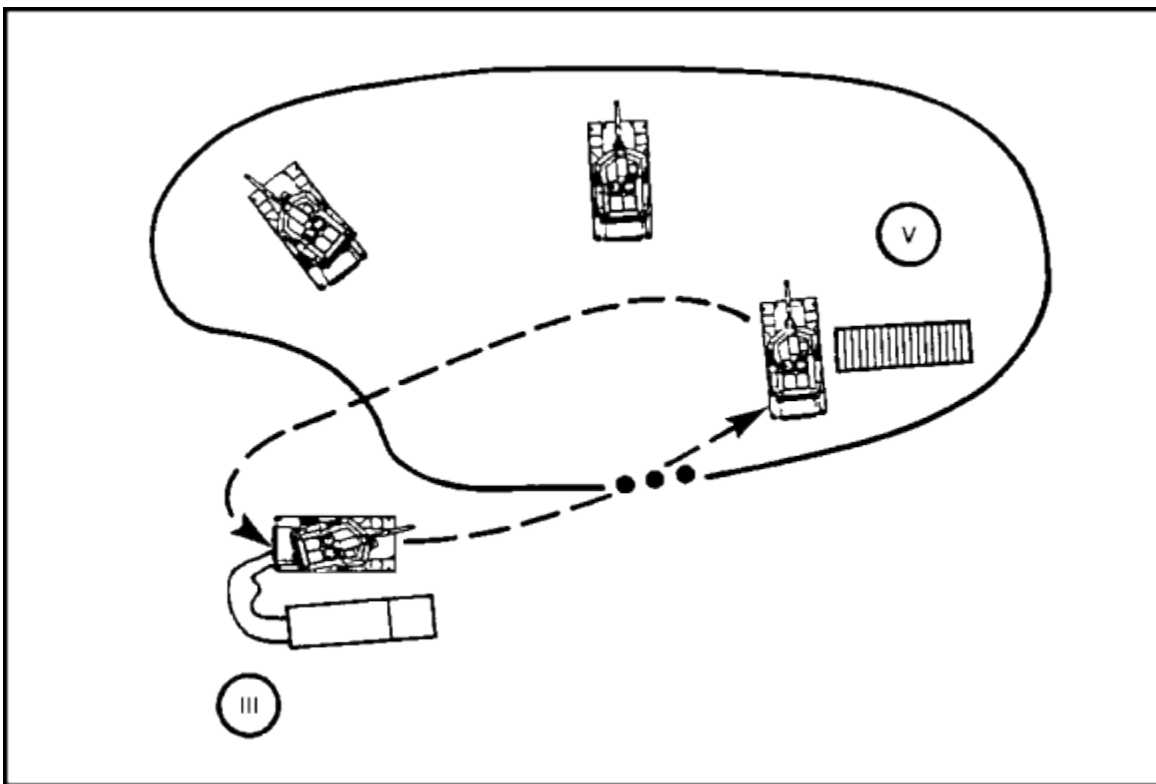


Figure 1-34. Prepositioning supplies (method 1)

Each vehicle pulls into the central area (to upload ammunition and rations (if repositioned)). Prepositioned fuel tankers are set up at the rear of the position and refueling is done as in the service-station method of routine resupply.

- Method 2: Class V supplies are prepositioned at each vehicle position. Class III tankers are prepositioned in one location for the entire platoon ([Figure 1-35](#)). Class V supplies are placed on the ground in the vicinity of each vehicle position. When the platoon

arrives, three vehicles move into the fighting positions and begin to rearm. The fourth vehicle stops at

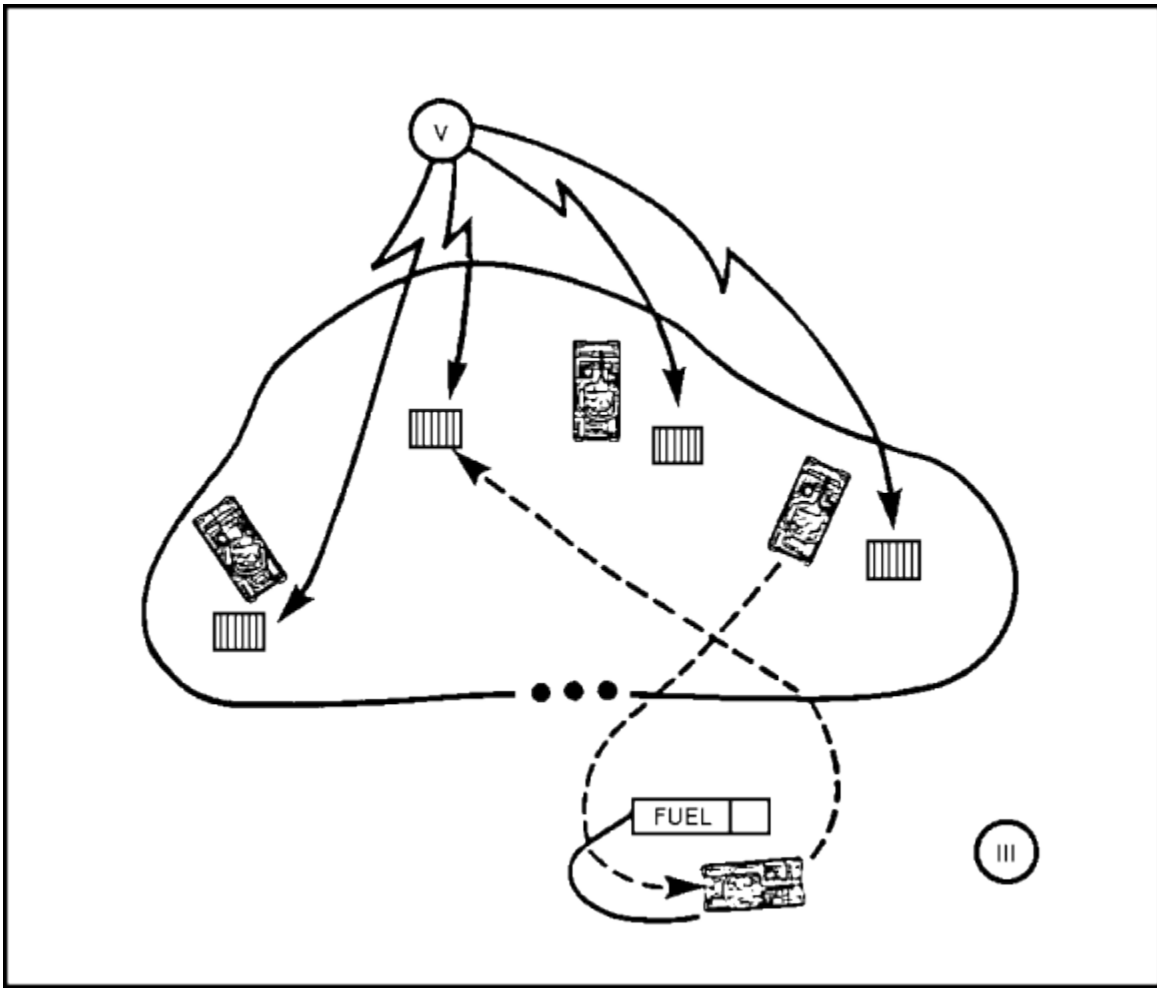


Figure 1-35. Prepositioning supplies (method 2)

the Class III tanker, located to the rear of the position, and refuels. When the refueling vehicle is full, it moves into its fighting position and begins to rearm while another vehicle moves to the refuel point.

PART B - TASK ORGANIZATION

1. Task Organization Elements.

The following subparagraphs discuss the task organization elements of the tank company, the tank platoon, the mechanized infantry company, the mechanized infantry platoon (BFV), the mechanized infantry platoon, the TOW platoon, the antiarmor company, combat support, the fire support team, command and control, and communications.

- a. Tank Company. Tank companies are organized to fight the enemy either pure or with cross-attached mechanized infantry platoons. The company consists of three platoons of four tanks each, and two additional tanks in the company headquarters section manned by the commander

and the XO. The tank company also has a first sergeant, an NBC NCO, a company master gunner, a supply sergeant, and an armorer and supply clerk in the company headquarters. The tank company consists of five officers and 57 enlisted men, as indicated in [Figure 1-36](#). Its mission is to close with and destroy enemy forces using fire, maneuver, and shock effect.

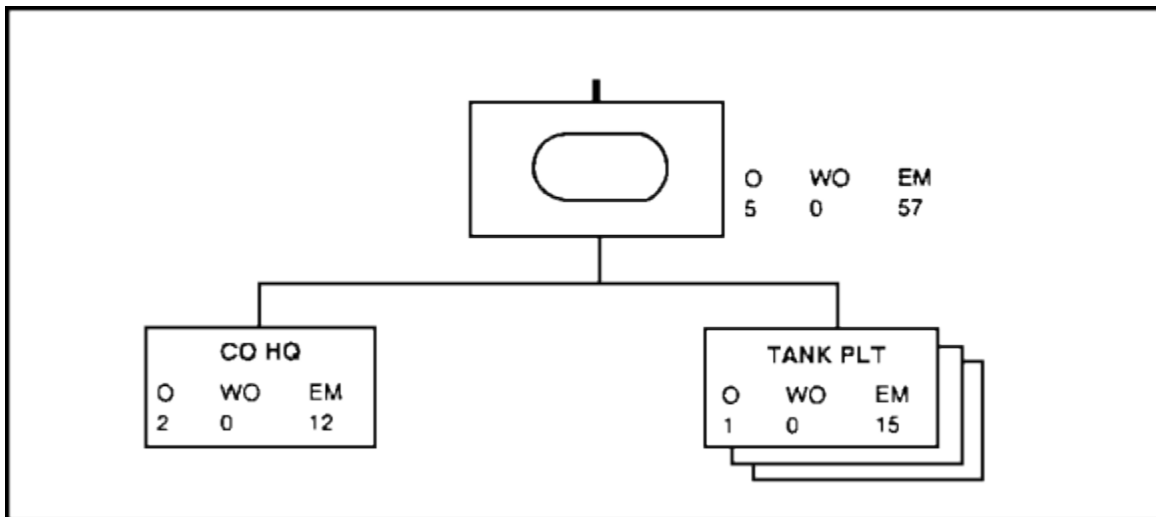


Figure 1-36. Tank battalion tank company (M1)

b. Tank Platoon. The tank platoon is organized to fight as one maneuver element. It consists of four tanks organized into two sections. One section is led by the platoon leader, the other by the platoon sergeant. The tank platoon moves, attacks, defends, and performs other essential tasks to support the company team's mission. The tank is armed with the main gun and two machine guns on the M60 or three machine guns on the M1.

(1) Capabilities. The tank platoon can—

- Conduct operations requiring a high degree of firepower, mobility, armor protection, and shock effect.
- Assault unprepared, suppressed defenses.
- Suppress enemy positions with machine-gun fire.
- Destroy enemy tanks and other armored vehicles by fire.
- Assault prepared defenses with infantry and engineer support.
- Support infantry units by fire, movement, and shock effect.
- Exploit success with high cross-country mobility.
- Limit and exploit the effects of mass-destruction weapons.
- Conduct combat operations under limited visibility conditions.
- Employ night-vision devices and other surveillance measures.

(2) Limitations. The tank platoon has—

- Limited maneuverability in built-up areas and wooded or rugged terrain.
- Vulnerability to antitank weapons.
- Slow speed in crossing water obstacles (no swim capability).
- Difficulty identifying enemy infantry and antitank gunners in close terrain.

- Limited fuel supply for extended operations (requires resupply at least once a day and often twice a day).
- Limited capability to hold ground.

c. Mechanized Infantry Company. Mechanized infantry companies are organized to fight the enemy either pure or with cross-attached tank platoons. The mechanized infantry can fight either mounted or dismounted. The company consists of three platoons with four BFVs each and a company headquarters. The company headquarters has a BFV manned by the company commander, his master gunner, and possibly the company FSO. The XO operates from an M113, with the communications chief and possibly the NBC NCO. The mechanized infantry company headquarters also includes the first sergeant, supply sergeant, and an armorer.

d. Mechanized Infantry Platoon (BFV). The organization and mission of the mechanized infantry platoon (BFV), its capabilities, equipment, vehicle, mobility, armored protection, fire power, limitations, maintenance requirements, mounting and dismounting procedures, as well as understrength platoons and squads, are discussed in the following subparagraphs.

(1) Organization and Mission. The mission of the infantry is to close with the enemy by means of fire and maneuver to destroy or capture him, or to repel his assault by fire, close combat, and counterattack. Mechanized infantry complements the combined arms team through its ability to seize and retain ground. It destroys enemy infantry and antitank guided missile elements. Infantrymen patrol difficult terrain, clear obstacles, and emplace minefields. They infiltrate and assault enemy positions. Infantry is responsible for close combat, using rifles, hand grenades, bayonets, and bare hands. The outcome of land combat is decided by the warriors who meet in close combat. To accomplish its mission, infantry moves by any and all means, to and between battle areas, where it fights on foot to gain a decision.

(2) Capabilities. Infantry units equipped with the BFV are the most ferocious forces on the battlefield. The key for mechanized infantry platoons equipped with BFVs is to maximize the potential of the infantry and BFVS. Infantry and BFV capabilities virtually mandate employment separated from each other to fully mass combat power at the decisive time and place against the enemy's weakness. The mounted and dismounted elements complement and reinforce each other. The BFV provides—

- Mobile, protected transport of infantry to the critical point of the battlefield.
- Fires to support the infantry.
- Fires to suppress or destroy enemy IFV and lightarmor vehicles.
- Antiarmor fires to destroy enemy armor.

(3) Equipment. There are times when mounted infantrymen can observe the battlefield, fire their weapons, and be protected by the vehicle's armor. However, the BFV is not invulnerable. The vehicle does not protect against a tank's main gun, antitank guns, antitank mines, missiles, or rockets. Protection from these weapons is obtained through skillful use of dismounted infantry and terrain and through overwatch and suppressive fires and obscuration. Therefore, the infantry leader must carefully analyze

every situation and weigh the advantages and disadvantages of mounted and dismounted combat.

The capability of the vehicle makes fighting mounted a possibility. However, many combat tasks can only be performed dismounted. When infantrymen dismount to perform their traditional tasks, they have unprecedented supporting firepower from BFVs, either one section of the BFVs support nine soldiers on the ground or four BFVs support two full squads with the platoon headquarters on the ground. When the situation requires dismounted operations, there is a functional and habitual alignment of who fights as a vehicle crew and who dismounts to fight on foot.

(4) Crew and Troop Compartments. The BFV carries nine men. The Bradley commander (BC) and the gunner ride in the turret. The driver rides in the left front station. The other six men ride in the rear troop compartment. Vision blocks are available so that all soldiers can view a portion of the battlefield. The BC and the gunner can operate all the turret weapons. As shown in [Figure 1-37](#), personnel can mount or dismount the vehicle through six points:

- Commander's hatch.
- Gunner's hatch.
- Driver's hatch.
- Cargo hatch.
- Ramp access door.
- Ramp.

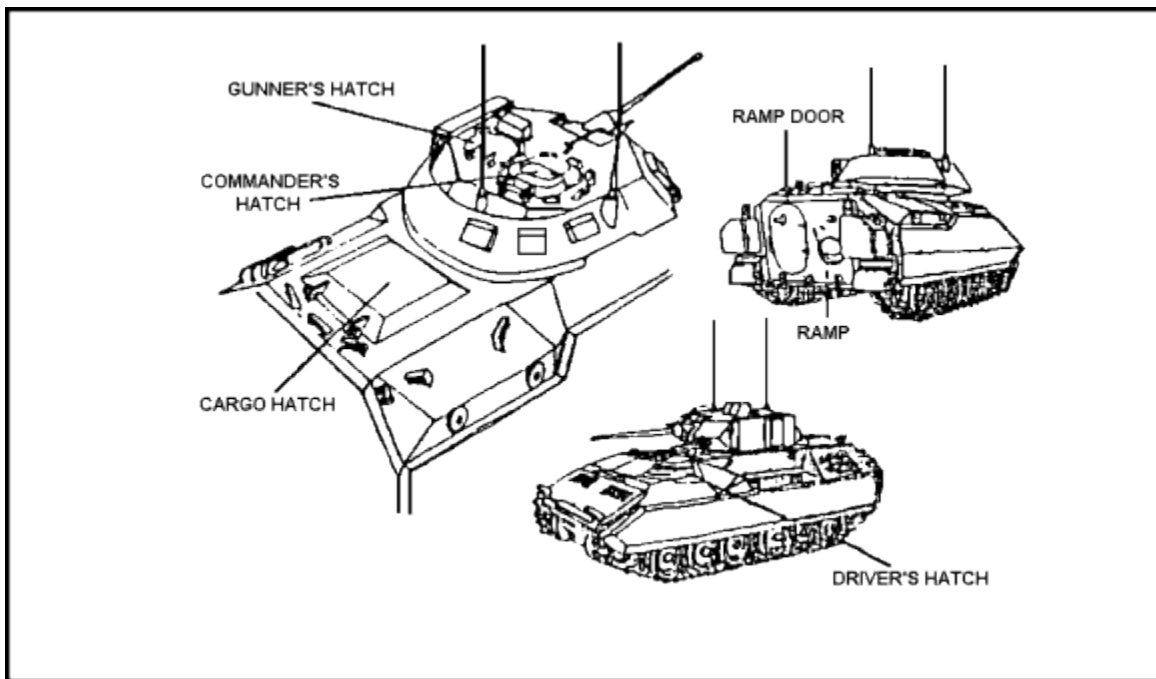


Figure 1-37. BFV dismount points

(5) Mobility. The BFV has excellent acceleration, agility, and cross-country speed of 48 kilometers per hour, with a cruising range of 480 kilometers.

(6) Armored Protection. Through the use of special armorplate materials, surface slope, and a unique laminate armor system, the BFV has excellent armor protection for its weight. Even though the BFV's armor cannot compare to that of a tank, the BFV can withstand 14.5-mm projectiles on all sides. The M2A2 Bradley can withstand up to 30-mm.

(7) Firepower. The vehicle's main armament is a 25-mm fully automatic, externally powered gun. The BFV's armament also includes a two-tube antitank missile launcher (TOW), a 7.62-mm coaxially mounted machine gun, and firing port weapons. The all electric, fully-stabilized turret permits accurate fire even when the vehicle is moving over rough terrain. The turret can also be operated manually.

(a) M242 25-mm Gun. The BFV's primary weapon accurately delivers both armor-piercing and high-explosive rounds. The 25-mm gun using APDS-T rounds can destroy lightly armored vehicles. Using HEI-T rounds, it can destroy unarmored vehicles. It is also used to suppress enemy troops who are dug in or in built-up areas.

- The 25-mm APDS round can penetrate lightly armored vehicles out to 2,000 meters. Flank shots increase the probability of penetration. Tracer burnout is about 1,700 meters, but effective fire using sabot rounds can be achieved by using burst-on target techniques if the impact of the round can be observed.
- The HEI-T is excellent for suppressing antitank guided missile crews and crew served weapons out to 3,000 meters. Tracer burnout is 2,000 meters, but effective fire can be placed on targets at further ranges if impact of the round can be observed.
- Nine hundred rounds of 25-mm ammunition can be carried aboard the BFV. Only 300 can be loaded in the 25-mm ready boxes. Uploading the weapons system for the 25-mm takes about 15 minutes. All leaders and gunners must be aware of the operational impact of using all of the ammunition in the ready boxes. As ammunition is fired, 15-round belts can be loaded in the two ready boxes in just minutes. If the remaining few rounds are fired after the LOW AMMO light comes on and all ammunition used, it requires 15 minutes because the new ammunition must be fed directly into the gun, rather than linking it to ammunition in the ready boxes. This is difficult to do while the vehicle is moving.

WARNING

THE BFV SHOULD NEVER FIRE APDS AMMUNITION WHILE DISMOUNTED FRIENDLY SOLDIERS ARE WITHIN A GUN ARC OF 10 DEGREES AND WITHIN 400 METERS UNLESS OVERHEAD COVER IS AVAILABLE FOR DISMOUNTED SOLDIERS. IF ROUNDS ARE FIRED OVER THE DISMOUNT ELEMENT, DISMOUNTED INFANTRYMEN COULD BE ENDANGERED BY PIECES OF METAL OR PLASTIC THAT FALL OFF ROUNDS FIRED FROM THE BFV.

(b) Tube-Launched, Optically-Tracked, Wire-Guided Missiles. The TOW missile is an accurate antitank weapon from 65 to 3,750 meters. Two TOW missiles are loaded in the turret mounted launcher. The TOW is best fired at the flank or rear of tanks at ranges between 1,500 and 2,500 meters to reduce the flight time of the missile and provide the best attack profile of the vehicle. Frontal shots should be avoided against tanks. Against lightly armored vehicles, the range and the target speed are not critical.

WARNING

THE VEHICLE MUST BE LEVEL AND STATIONARY FOR THE TOW TO BE FIRED.
BEFORE FIRING THE TOW, THE DRIVER, THE GUNNER, AND THE BC MUST
CHECK THE LEVEL INDICATORS AT THEIR STATIONS.

(c) M240C 7.62-mm Coaxial Machine Gun. The machine gun is an accurate and reliable weapon. The main use of this weapon is against dismounted forces. It can also be used to suppress crew-served weapons and engage unarmored vehicles and aircraft out to 900 meters (tracer burnout). The BFV can carry 2,200 rounds of 7.62-mm coax ammunition—1,400 stowed and 800 ready.

(d) M231 5.56-mm Firing Port Weapons (FPWs). The basic BFV and M2A1 have six M231 5.56-mm FPWs, two on each side, two in the ramp, as shown in [Figure 1-38](#).) The M2A2 has only the two ramp FPWs. These weapons provide close-in, all-round protection and suppression out to 200 meters. The vehicle carries 4,200 rounds of ammunition for the FPWs.

(8) Communications. The BFV's communication system provides for control of mounted and dismounted operations. BFV 2 (platoon leader's wingman) and BFV 3 (platoon sergeant's wingman) have one VRC-87, a short-range, nondismountable radio. BFV 1 (platoon leader) and BFV 4 (platoon sergeant) have a VRC-91 that has a fixed long-range capability and a dismountable short-range capability. The platoon also has one PRC-119 short-range radio (dismounted only). In addition, each BFV has an

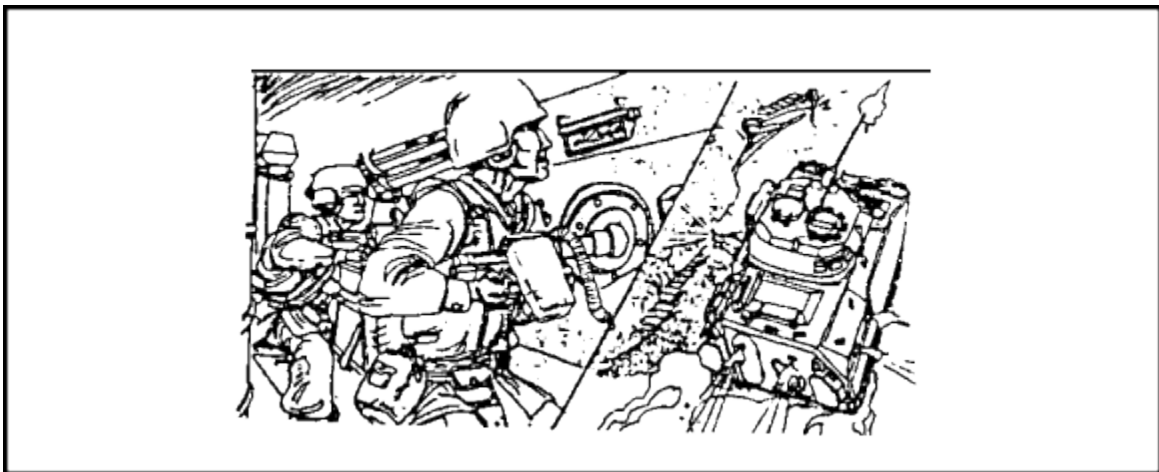


Figure 1-38. Firing port weapons

intercommunication system. For dismounted operations, the VRC-91 radio can be backpacked in addition to use of the PRC-119. The platoon also has six PRC-126 radios for use by the squads ([Figure 1-39](#)).

(9) Water-Crossing Capability. The BFV can ford up to 3.5 feet of water. With its water barrier erected, the BFV can swim water obstacles with currents up to 6.4 kilometers per hour. It has a maximum speed of 7.25 kilometers per hour while swimming. Erection of the swim barrier takes about 15 minutes for the basic BFV and about 25 minutes for the M2A2. The BFV requires an exit bank slope not greater than 17 percent and can fire both its 25-mm and 7.62-mm systems while swimming, though care must be taken not to hit the trim vane or water barrier.

The 25-mm may be fired in any direction while swimming. However, the turret should not be traversed because it may upset the balance of the vehicle.

(10) Smoke Capability. The BFV has onboard smoke capability. The BFV has two smoke-grenade launchers (four tubes each). They are fired simultaneously, and they produce a dense

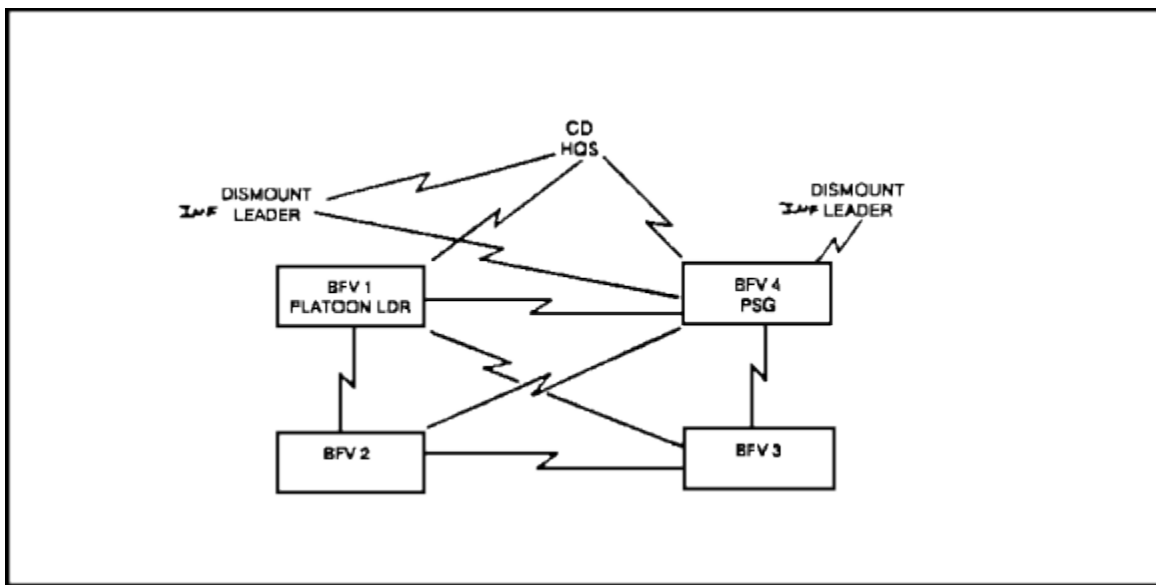


Figure 1-39. Platoon radio net

cloud of smoke around the vehicle. The launchers must be reloaded from the outside before they can be refired. They can be used for obscuring air- or ground-launched guided missiles. The onboard smoke generator is not effective if the fuel is JP3.

(11) Limited Visibility Capability. Using the integrated sight unit in the thermal mode, the BC and gunner can detect and engage targets during any visibility condition, day or night. The daysight has normal optics. The nightsight uses thermal imagery that enables the gunner to see through most limited visibility conditions. This includes darkness, light, smoke, light foliage, camouflage, light fog, snow, and mist. Thermal sights should remain on during combat operations.

- (a) Driver. The driver has excellent viewing capability using the AV/ W S-2 driver's night viewer. This viewer is an image intensification device that allows the driver to see clearly to his front, even on the darkest of nights. With it, he can handle his vehicle well on the roughest terrain. Also, during darkness, he can use the viewer to assist the BC and gunner in sensing rounds fired to the front. It is, however, prone to white out (fade out) if light is shined directly at it (for example, oncoming headlights, flashlights). When installed, it obscures the speedometer/odometer. It can be battery powered or run directly off the vehicle.
- (b) BC. The BC can monitor the vehicle's night movement by wearing the AN/PVS-5 or -7 night vision goggles.
- (c) Gunner. The gunner can assist and observe using the thermal sight while scanning the sector.
- (d) Platoon. The platoon has several types of night vision devices available for dismount operations. They include—

- AN/TAS-5, Dragon thermal nightsight.
- AN/PAS-7, hand held thermal viewer.
- AN/PVS-5 or -7, night vision goggles.
- AN/TVS-5, crew-served weapon night vision sight.
- AN/PVS-4, night vision sight individual-served weapon.

(12) Maintenance. The BFV is a sophisticated weapon system, which has many features that simplify its maintenance. The complexity of the vehicle, however, demands that leaders become actively involved and continuously emphasize maintenance. The BC is responsible for all operational- and crew-level maintenance.

- (a) Organizational-Level. Organizational-level maintenance personnel have equipment that allows them to isolate and rapidly diagnose faults in the vehicle system. The BFV is designed for rapid modular replacement of the power plant, transmission, turret drive, gun control systems, integrated sight unit, TOW missile launcher system, and major electrical and electronic components.
- (b) BFV Test Equipment. The BFV test equipment connections are at easily accessible points with standard connectors. The modular components have quick disconnects and fasteners for rapid replacement of parts.

(13) Mounting Procedures. The platoon is the basic combat unit capable of maneuvering in the conduct of combat operations. The platoon can fight as part of a pure mechanized infantry company or as part of a company team, task organized with tank platoons and mechanized infantry platoons. On the battlefield, the platoon can expect rapid and frequent movement. It must be prepared to fight in a variety of situations (both mounted and dismounted) while attacking, defending, delaying, during movement, and during conditions when nuclear and chemical weapons have been used.

The platoon operates to make maximum use of the BFV's onboard weapons. The decision to fight mounted or dismounted and decisions on the interaction between the squads and BFVs are made at platoon level. The usual relationship once dismounted is for four BFVs, under the platoon sergeant's control, support the squads. This aligns dismounted and mounted tasks and facilities command and control.

The mechanized infantry platoon is equipped with four BFVs. The mounted element includes two sections (A and B) with two vehicles each; the section leader's vehicle and his wingman. One section may serve as the base of fire while the other section moves.

Personnel seating is based on the principles that leadership and area suppression weapons should be dismounted as early as possible. ([Figures 1-40](#) and [1-41](#).) First Squad, when mounted, rides in Section A BFVs, and 2d Squad rides in Section B BFVs. ([Figure 1-42](#).)

- (a) Platoon Leader. The platoon leader, his RATELO, forward observer, and his backup gunner ride in the platoon headquarters vehicle (BFV 1) in Section A. The other members of the platoon headquarters—platoon sergeant, medic, and FO/RATELO—ride in the platoon sergeant's vehicle (BFV 4) in Section S.
 - (b) Team A. Team A, 1st Squad and squad leader, ride in BFV 1. Team B, 1st Squad, ride with the platoon leader's wingman (BFV 2). The BC of BFV 2 is the platoon master gunner. His vehicle orients on the platoon leader's BFV. When the platoon leader dismounts, BFV 2 remains the wingman of BFV 1.
 - (c) Platoon Sergeant. The PSG is usually mounted and controls the mounted element. He may take control of the dismounted element as necessary. Team B, 2d Squad and its squad leader, ride in BFV 4. Team A, 2d Squad, rides with platoon sergeant's wingman vehicle (BFV:3).
- (14) Dismount Procedure. The dismounted element consists of two squads of nine men each including a squad leader (SSG) and two team leaders (SGTs). The leader of the dismounted element is usually the platoon leader. The platoon sergeant may lead the dismount element when the situation dictates that the platoon leader remain mounted. Once dismounted, the BFVs serve as the base of fire for the dismount element. The squads have the capability of setting up a base of fire to fire and move. A squad can also provide its own overwatch element and conduct independent fire and movement when required.
- (a) Deliberate Dismount. During a deliberate dismount, the platoon leader or the platoon sergeant, based on METT-T analysis, leads the dismount element. Usually this is the platoon leader because the dismounted fight is normally the decisive action.

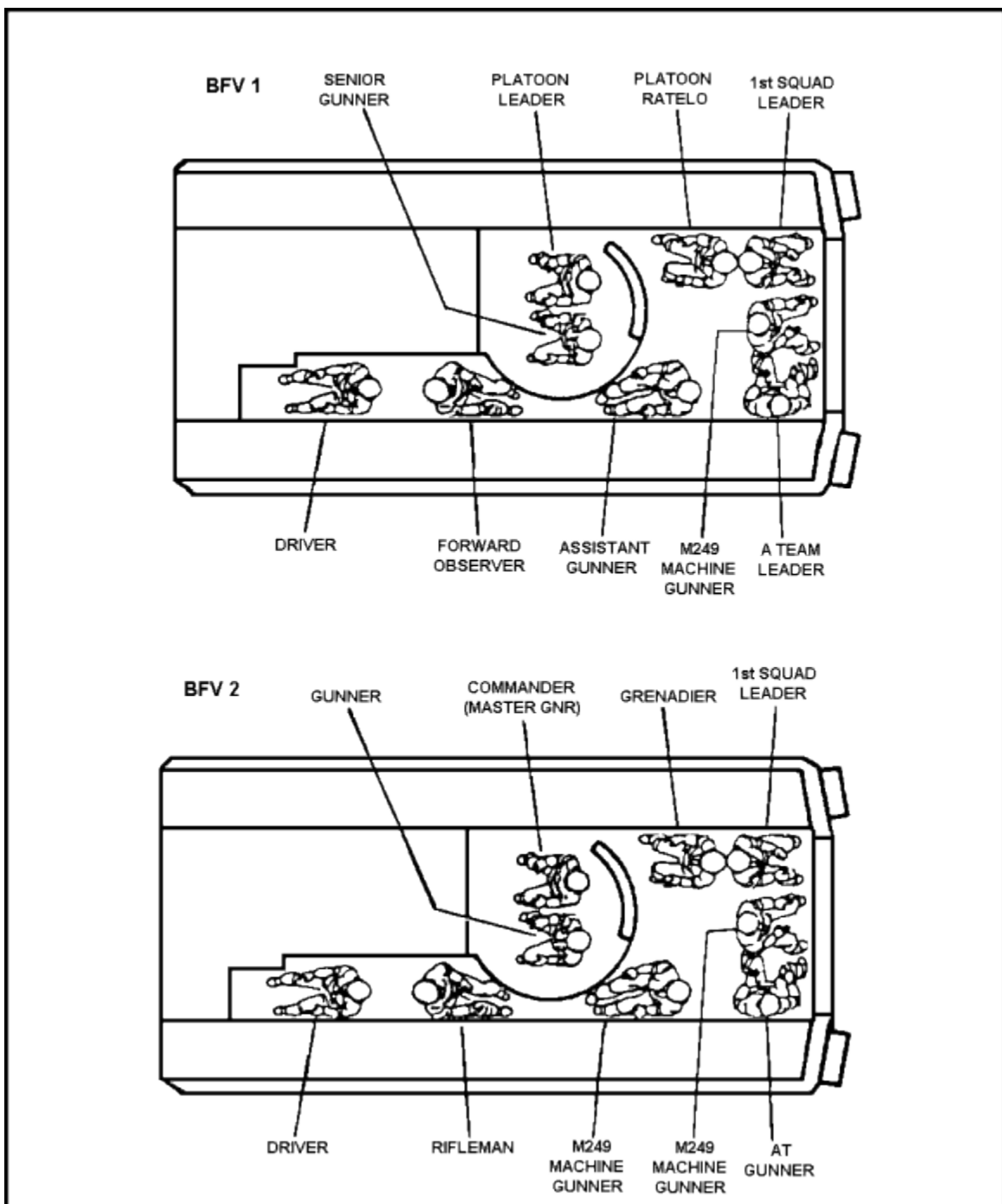


Figure 1-40. BFV personnel seating

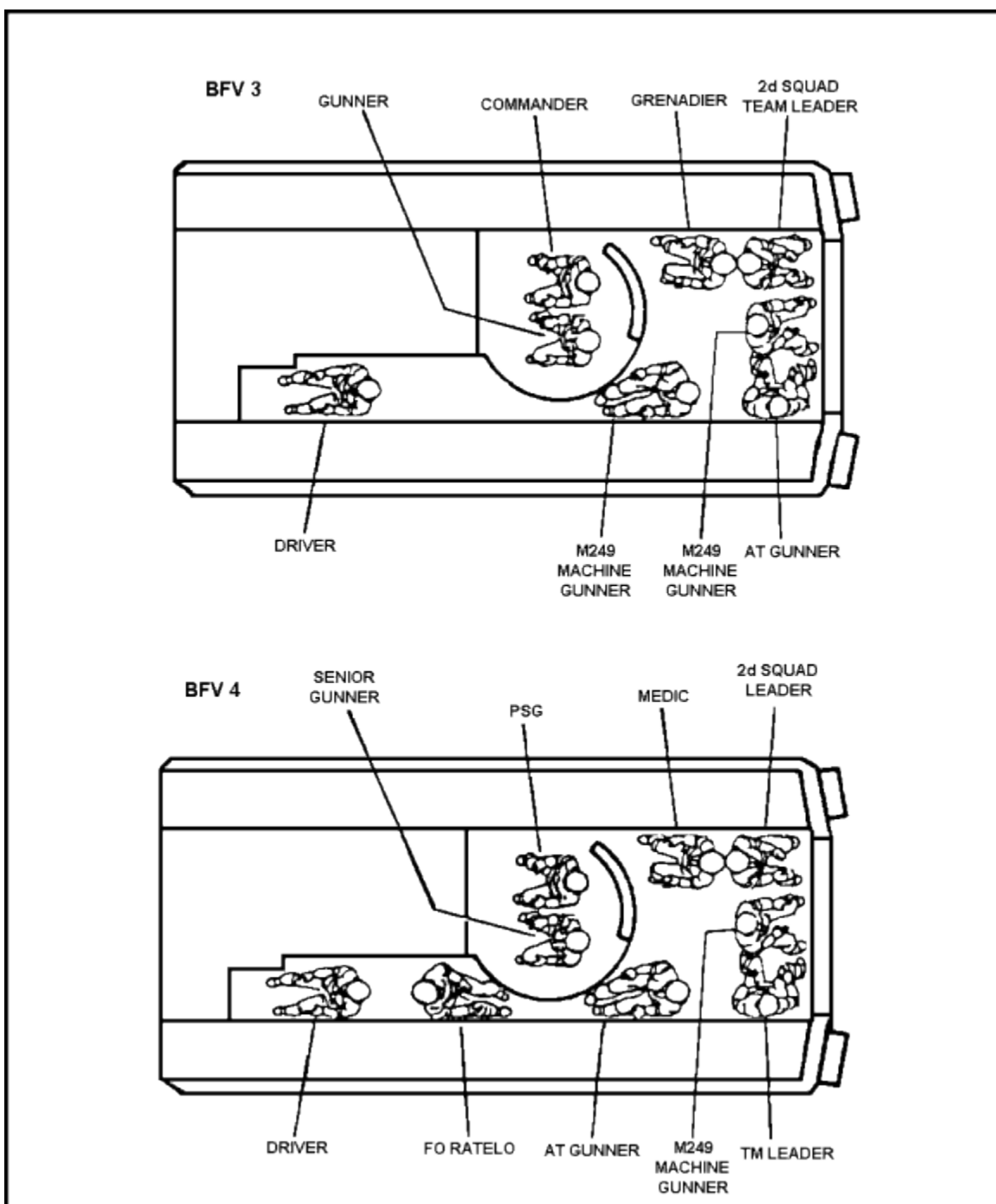


Figure 1-41. BFV personnel seating (continued)

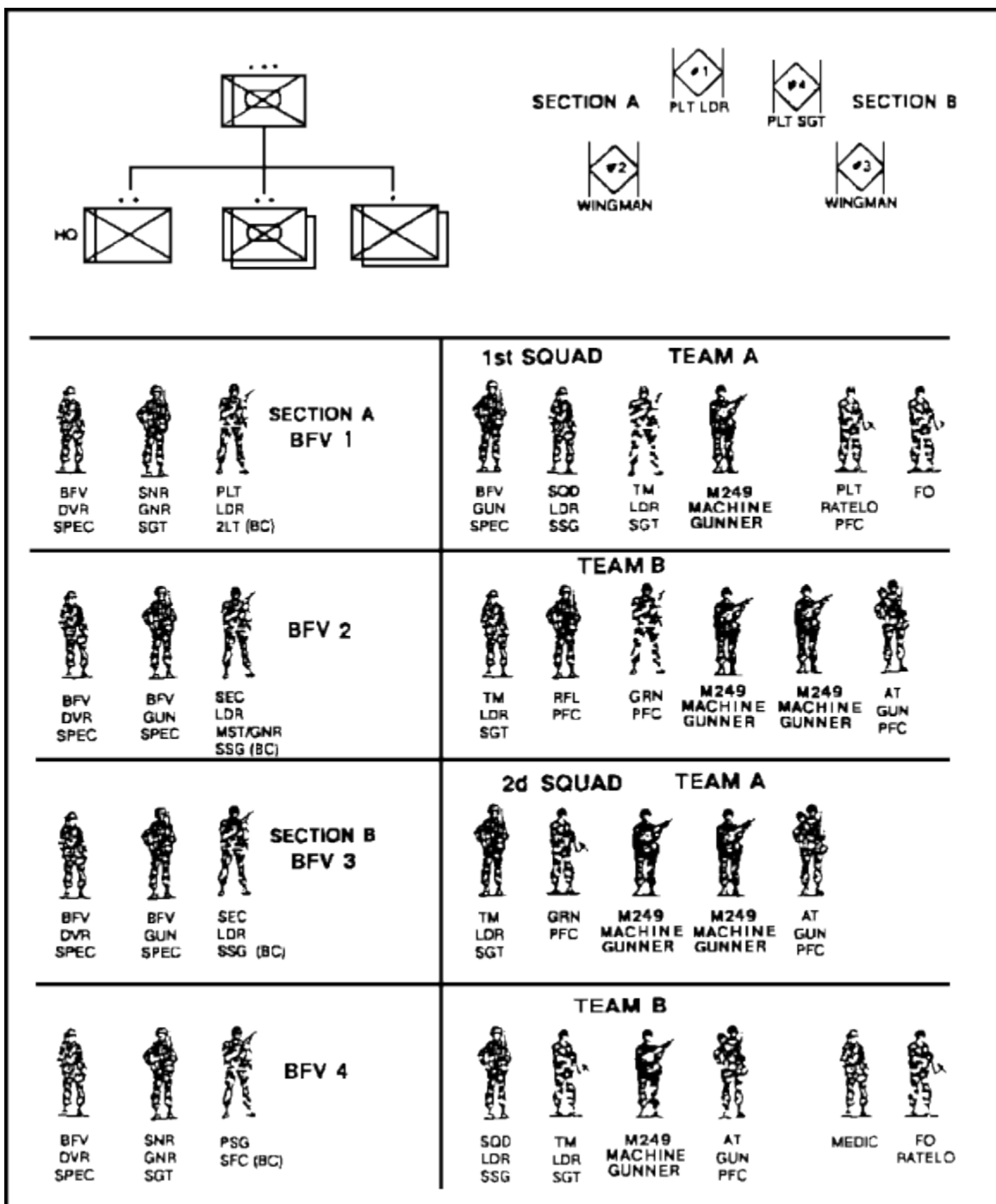


Figure 1-42. Bradley infantry platoon organization

- The senior gunner in the platoon leader's vehicle becomes the BC when the leader dismounts. Upon dismount, the platoon leader's backup gunner moves to the gunner's seat.
- Should the platoon sergeant dismount, the senior gunner becomes the BC. The platoon sergeant must have a trained gunner designated from the fire team in his vehicle. This individual should be resourced and qualified as an alternate crew with the senior gunner as BC.

(b) Hasty Dismount. A hasty dismount is executed as a drill, in response to an unexpected, life-threatening situation where speed is essential. Therefore, in a hasty situation, only the squads dismount. The BFVs immediately suppress and obscure the enemy while moving to cover dismount soldiers, and make a quick estimate of the situation. An estimate is made to determine if and when the platoon leader or platoon sergeant joins the dismounted element. Until that time that the senior squad leader controls the dismounted element to develop the situation, to provide local security, or to reconnoiter. When the platoon leader dismounts, the senior squad leader performs platoon sergeant duties as designated by the platoon leader.

(c) Independent Fighting Capability. The ability of the squads to fight independently from the BFVs offers the platoon leader numerous employment options. Because the BFVs can fight effectively when the fire teams dismount, the platoon can fight as two separate elements. The distinct characteristics and advantages provided by the separate elements are simultaneously reinforcing and complementary to one another.

(15) Personnel Responsibilities and Duties. The BFV requires a fully trained crew. It carries a fire team whose primary role is to dismount and fight on the ground. The leadership of the BFV-equipped platoon is balanced between the fighting vehicles and the two squads. Leader's roles are complex to accommodate this powerful and flexible capability. Each member of the platoon must be trained and prepared to perform his duties.

The organization provides for career progression and provides depth. There is a mounted and dismounted function and job position for each skill level throughout the platoon. It provides for well-rounded soldiers capable of filling voids created by personnel losses in combat or personnel turbulence (changes), or shortfalls in peacetime.

(a) Platoon Leader. The platoon leader has overall responsibility for the platoon, both mounted and dismounted. During mounted operations, he commands and controls the actions of the mounted platoon. He is also a BC when mounted, and section leader of Section A. When the situation dictates that the squads dismount, the platoon leader normally dismounts. He oversees the training of both the mounted and the dismounted elements. The platoon leader has overall responsibility for the training, maintenance, and welfare of the entire platoon.

(b) Platoon Sergeant. The platoon sergeant is the platoon's second in command. During mounted platoon combat, he is a BC and provides command and control over Section B of the mounted element. When the platoon leader dismounts, the platoon sergeant controls the platoon's mounted element. In some instances, the platoon sergeant commands and controls the dismounted element. The platoon sergeant assists the platoon leader in supervising the training of the

mounted and dismounted elements. The platoon sergeant is also primarily responsible for the maintenance and operation of the four BFVs. He is also responsible for the execution of CSS functions in the platoon. He is the platoon leader's principal advisor for welfare and training of the platoon.

(c) Bradley Commander (BC). The BC remains mounted and is responsible for commanding the vehicle in relation to the section and platoon. He is responsible for acquiring targets, issuing fire commands, laying the gun for deflection, and controlling vehicle fires to include firing port weapons. The BC is primarily responsible for the overall maintenance of the BFV's weapons systems and the automotive and turret portion of the vehicle. He is also responsible for the weapons training and welfare of the crew. The BCs on BFVs 2 and 3 are responsible for the training, health and welfare of the crews of their sections. They also oversee the maintenance of the two BFVs in their sections.

(d) Squad Leader. There are two squads each lead by a staff sergeant. Their squads are habitually associated with a vehicle section. Squad leaders are responsible for the employment of their squads when dismounted. The senior dismounted squad leader is also responsible for the employment of the dismounted element until the platoon leader or PSG arrives.

Squad leaders are responsible for ensuring the maintenance of all individual weapons and equipment of the squad's soldiers. They also assist the BC, along with their squad members, in sustaining the BFVs. Squad leaders assist the platoon sergeant and platoon leader in determining the training requirements for their squads. They train their squads in accordance with the priorities and established standards. They are responsible for the welfare of their squads.

(e) Platoon Master Gunner. The platoon master gunner is the platoon leader's wingman. He is the platoon leader's technical expert on gunnery and turret weapons systems. He advises the platoon leader and PSG in the training of the weapons systems. He is the key technical trainer of the mounted element under routine supervision of the platoon sergeant. He helps the platoon leader establish the gunnery tasks for training.

(f) Team Leader. Two fire team leaders are in each squad. They perform the same functions as team leaders in all infantry squads and are habitually associated with a specific BFV. They assist the squad leader in the tactical control of the squad. They lead by example. They control the movement and fires of the fire teams. They must keep the soldiers in the troop compartment well informed and alert. They assist the squad leader in training team members on the individual and collective tasks and battle drills. Team members provide the necessary local security and maintenance support for the BFV. They are responsible for the welfare of their teams.

- (g) Gunner. The gunner observes the battlefield to detect enemy targets. He operates the turret weapons as directed by the BC. The gunner is responsible for verifying the identification of targets before engaging. He serves as gunner and, in rare cases, as fighting vehicle crew leader when only two men are in the BFV. He is responsible for operator maintenance of the turret and its weapons. The gunners for the platoon leader and platoon sergeant are frequently required to assist in navigation and operation of radios.
- (h) Driver. The driver drives the vehicle under the BC's control. He follows terrain-driving procedures and selects hull-down positions. He also aids in detecting targets and observing rounds fired. He assists in navigation by monitoring odometer readings and observing terrain. The driver is responsible primarily for operator maintenance of vehicle automotive systems. Other squad members help the driver as directed by the platoon leader or the platoon sergeant.
- (i) Rifleman. The rifleman's personal weapon is the M16A2 rifle.
- (j) Antiarmor Specialist. The antiarmor specialist's personal weapon is the M16A2 rifle. He is also the designated gunner for the Dragon.
- (k) Grenadier. The grenadier's primary weapon is the M16A2 rifle equipped with the M203 grenade launcher.
- (l) Machine Gunners. The Bradley squad has three machine gunners. The machine gunners' personal weapon is the M249.
- (16) Cross Training. Cross training provides depth to the platoon and occurs within and between mounted and dismounted elements. The platoon leader's alternate gunner should train and qualify the same as the primary crew. Special consideration should be given to—
- Gunners, who may have to be BCs or fire team leaders.
 - BCs, who may have to be gunners or squad leaders.
 - Squad leaders who may have to be BCs. The U-COFT and other gunnery training devices are a key to cross training.
- (17) Cohesion. Maintaining cohesion is a prime concern of every infantry leader. Cohesion is critical to battlefield success. Cohesion is nurtured in most small groups with common interests and goals. Cohesion exists within the BFV structure because sections and squads remain small in size and are characterized by daily face-to-face interaction. Cohesion springs from the knowledge that vehicle crew and dismounted infantry depend on each other. One cannot exist without the other. Positive, effective, demanding leadership keeps the platoon cohesive. Without it, cohesion can not exist.
- (18) Understrength Platoons and Squads. Platoons and squads usually are not at full strength. Even so, the mission can still be accomplished if understrength units are properly organized.

(a) Rules for Organizing Understrength Units. Understrength units should be organized with these rules in mind:

- Keep key leadership positions filled. Always maintain a chain of command—platoon leader, platoon sergeant, squad leaders, and team leaders.
- Man the most potent weapons first. Take full advantage of available firepower. Before each mission, carefully consider how to employ Dragons and machine guns. In most situations, the BFV turret weapons are the most potent weapons.
- Squad and platoon members must be cross trained so that more than one man in each squad is capable of acting as gunner, driver, and BC. The platoon must also cross train for the Dragon, M249, and RATELO. All leaders must be able to call for and adjust indirect fires. This type of in-depth training pays off when personnel turbulence is high and units are understrength.

(b) Cross-Loading. The platoon must have an organization plan for use when it does not have all four fighting vehicles. Because full-strength squad cannot ride on one BFV, cross-loading of men and equipment from a disabled BFV must be accomplished among all of the platoon's remaining BFVs. Depending on the location and condition of the disabled vehicle as well as the tactical situation, the platoon leader may choose to leave the driver and gunner with the BFV to secure it and oversee its recovery and repair.

(c) Manning. Conversely, the platoon must have a plan for use when it has all or most of its vehicles, yet is short personnel. A minimum manning example follows:

- Squad. The squad leader plus two fire teams of three men each.
- Platoon. Platoon leader or platoon sergeant, plus three BFVs with full crews, and three fire teams of three soldiers each for a total platoon strength of 19. If platoon strength falls below 19 the company commander should reorganize the company if possible.

e. Mechanized Infantry Platoon. The mechanized infantry platoon consists of 32 infantrymen mounted in four BFVS. It is organized into a platoon headquarters and three rifle squads. The platoon can fight as one maneuver element, or as two elements. When the platoon fights as two elements, it forms a BFV element and a dismounted element. When the platoon fights mounted, the BFVs are armed with 25-mm main gun and firing port weapons. The dismounted infantry are armed with three Dragon antitank launchers, six M249 machine guns (or three M60 machine guns and three M15 automatic rifles), six M203 grenade launchers, and five M16 rifles. These weapons are supplemented by light antitank weapons, hand grenades, and mines carried in the platoon basic load.

(1) Capabilities. The BFV element can—

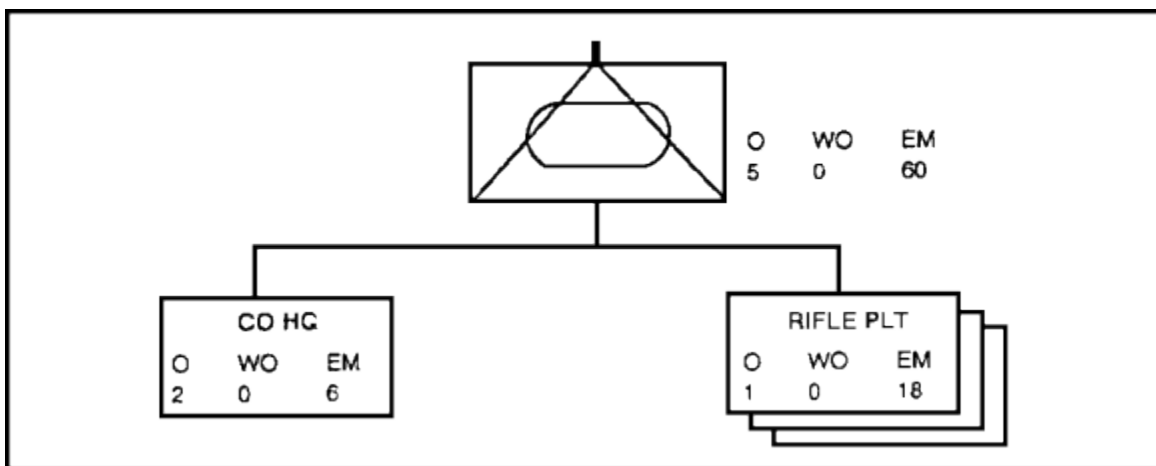
- Destroy BMPs and other light-armor vehicles with cannon fire.
- Destroy tanks with long-range ATGM fire.
- Suppress and kill dismounted infantry with cannon and machine-gun fire.
- Maneuver with tanks, swim streams, and move over some ground that tanks cannot negotiate.
- Conduct mounted assaults against unprepared, suppressed defenses.
- When dismounted, the infantry element can—
 - Fix the enemy to allow maneuver.
 - Seize key terrain to facilitate the assault. - Breach obstacles.
 - Conduct assault breaches and dismounted assaults.
 - Infiltrate enemy positions.
 - Conduct patrols to accomplish reconnaissance and counterreconnaissance.
 - Defend against dismounted attacks.
 - Secure obstacles to defeat enemy breaching efforts.
 - Move over terrain not trafficable by tracked vehicles.

(2) Limitations. Infantry platoons are limited by—

- BFVs more vulnerable to destruction than tanks.
- Dismounted infantrymen vulnerable to small-arm and indirect fires.
- Infantrymen who need sufficient time to mount and dismount.

f. TOW Platoon. The TOW platoon is organized into a headquarters section in an M113 and two sections of two ITVs each. The platoon is employed as a unit. It fights by section. The organization of the TOW platoon is shown in [Figure 1-43](#).

g. Antiarmor Company. The antiarmor company (BFV) consists of five officers and 60 enlisted men. The antiarmor company (BFV) is organized as shown in [Figure 1-44](#). The antiarmor company (M113) consists of five officers and 60 enlisted men. It is organized as shown in [Figure 1-45](#). The mission of the antiarmor company is to reinforce the direct antitank fires of the rifle companies.



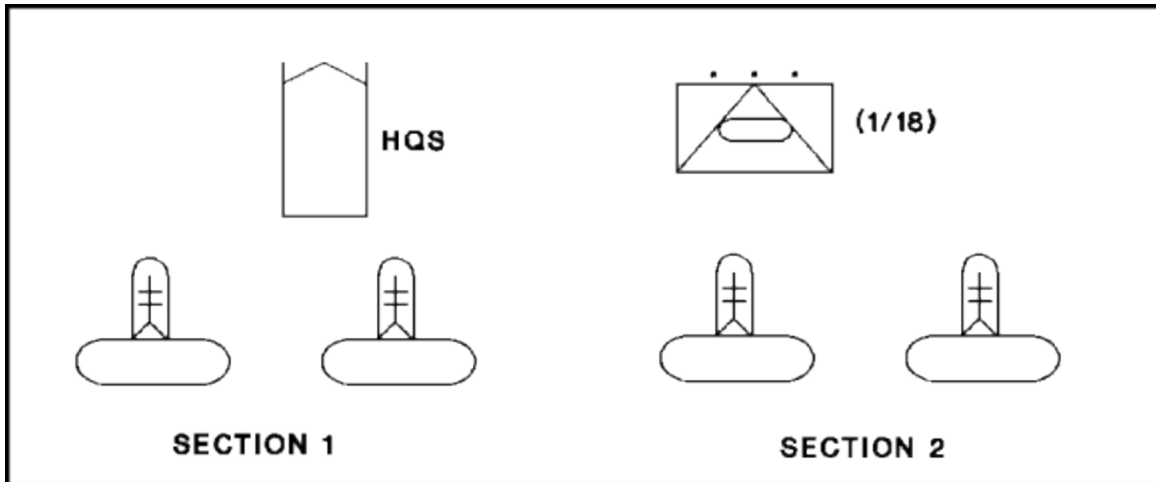


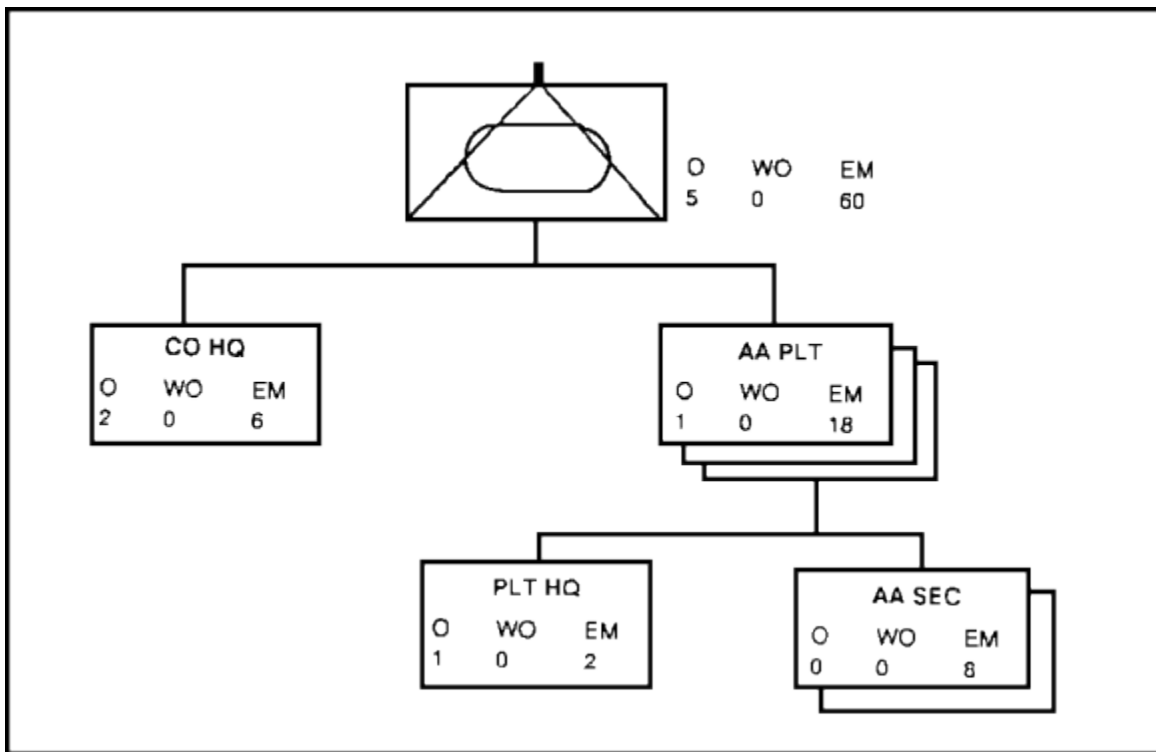
Figure 1-44. Antiarmor company

h. Combat Support. The battalion task force receives a fire support element (FSE) from the brigade's direct-support artillery battalion. The FSE coordinates indirect-fire support, close air support, and air space for joint air attack team (JAAT) operations. The company team receives a fire support team (FIST) from the FSE. The FIST is responsible for fire support coordination with the artillery and mortars supporting the company team.

The company team may also receive the following CS elements temporarily to assist it in accomplishing its mission:

- Engineer squad, platoon, or special equipment.
- Stinger teams or Vulcan section.
- Ground surveillance radar (GSR) teams.
- Battalion scout platoon.
- Antitank platoon.

To achieve its full combat potential, the company team must synchronize its fire and maneuver with all available CS assets. CS enhances and multiplies the effects of the company team's combat power. CS assets include fire support (mortars, field artillery, army aviation, tactical air, and naval fire), antiarmor, engineer, air defense, intelligence (including reconnaissance and ground surveillance radar), signal, chemical,



The FIST is organized differently for mechanized infantry companies and company teams than for tank companies. For mechanized infantry companies and company teams, the FIST consists of a four-man headquarters and three forward observer (FO) parties. Each FO party is attached to one of the organic mechanized infantry platoons and stays with that platoon when it is cross-attached. The mechanized infantry company team FSO normally locates with the company team commander, either in the commander's vehicle or in the fire support vehicle (FSV), to assist the commander in fire support planning and coordination.

The tank company FIST has the same headquarters as the mechanized infantry FIST, but no FO parties. This requires tank platoon leaders and platoon sergeants to perform the FO's duties. All FIST headquarters personnel ride in the FSV, where they can best assist the tank company team commander in planning and coordinating fire support.

j. Combat Service Support. The company team normally receives a company maintenance team and a medical aid and evacuation team from the battalion headquarters and headquarters company as attachments to its CSS. The exact composition of these teams is based on mission, enemy, troops, terrain (and weather), and time available (METT-T). These attachments and wheeled vehicles in the company team headquarters form the company trains. The company trains are normally echeloned. Elements are positioned at one of three locations:

- Company team combat trains (maintenance and medical teams).
- Battalion task force unit maintenance collection point (elements of the maintenance team).
- Battalion task force field trains (supply section).

k. Command and Control Responsibilities. A company team commander divides responsibility among key leaders. Each subordinate must know his job, and how the company team functions while executing its missions. Although every situation is different, the SOP should standardize the way tasks are accomplished. This subparagraph shows the basic duties and responsibilities of the XO, platoon leaders, company FSO, first sergeant, and other key personnel in the company headquarters. Once the basics are mastered, add to individual responsibilities as necessary.

(1) Executive Officer. The XO is second in command. Acting as the net control station (NCS), he helps command and control the maneuver of the company team. He receives and consolidates the tactical reports from the platoons, then submits them to the battalion task force tactical operations center (TOC). Therefore, the XO must locate where he can maintain communications with the company team commander and the battalion task force TOC. He needs a position with good observation and fields of fire. The XO assumes command of the company team as required.

Before the battle, the XO (with the first sergeant) plans and supervises the company CSS. During preparation for movement, the XO and the first sergeant make sure precombat inspections are complete.

Before the battle, the XO makes tactical coordination with higher, adjacent, and supporting units. He may aid in control of a phase of the battle such as passage of lines, bridging a gap, breaching an obstacle, or assumption of control of a platoon attached on the move.

(2) Platoon Leaders. The platoon leaders are responsible for the training, tactical employment, and logistics of the platoon. The platoon leader fights with his platoon and leads by personal example. He must know the capabilities of the soldiers and equipment,

and how to employ them. Cross-attached platoon leaders can advise the commander on how to make use of their capabilities.

The platoon leaders inform the company team commander of the tactical situation, and the supply and maintenance status of the platoon. They send timely, accurate reports to the XO on tactical matters, and to the first sergeant of logistical matters. Tank platoon leaders act as FOs for the FIST (platoon sergeants help the platoon leaders).

(3) Company FSO. The company FSO helps plan, coordinate, and execute fire support. During planning, he develops a fire support plan based on guidance supporting the scheme of maneuver. The company FSO completes the fire support column of the execution matrix. He coordinates the company team fire support plan through the battalion FSO to make sure firing units can execute fire requests as rapidly and efficiently as possible.

He briefs, or provides the company team commander with information to brief, the company fire support plan. This includes the target list, frequencies, call signs, and responsibilities for calling fires.

With the assistance of the FIST, he initiates and relays requests for fire during the operation to support the scheme of maneuver. He may also control battalion-level task force fire missions or close air support (CAS) at the direction of the battalion FSO. He adjusts fire missions, personally or through FOs. The company FSO positions the ground laser location designator (GLLD) where it can support the company team most effectively.

(4) First Sergeant. The first sergeant is the senior NCO. He helps with training, maintenance, logistics, and administration of the company team. While the company team prepares for future operations, he coordinates through the battalion combat trains command post (CP) to get the supplies, equipment, and personnel needed to continue the fight. He checks the soldiers to see that they are physically and mentally prepared to fight. Normally, he establishes and leads the quartering party.

During the battle, the first sergeant controls movement and operations of the company combat trains. He makes sure CSS priorities are fulfilled, checks the casualties to make sure they are properly treated or evacuated, and supervises the actions of the company maintenance team. He submits logistical reports to the battalion administrative/logistics center (ALC) on the battalion administrative/logistics net (ALN) and is responsible for the security of the combat trains.

During reorganization, the first sergeant continues to supervise the actions of the company team combat trains and coordinates the resupply of the company team through the battalion combat trains CP. He links up with the logistics package (LOGPAC) at the logistics release point (LRP) and moves it to the company team's position to conduct resupply.

(5) Supply Sergeant. The supply sergeant requests, receives, issues, stores, maintains, and turns in supplies and equipment for the company team. He coordinates specific requirements with the first sergeant and the battalion support platoon leader. When positioned in the battalion field trains, the supply sergeant is supervised by the headquarters and headquarters company (HHC) commander of the support platoon leader.

He maintains communication with the company team on the battalion ALN, often through the HHC commander and the combat trains CP. He brings water, Classes I, III, and V supplies and other needed supplies to the LRP and helps the first sergeant supervise supply operations.

(6) NBC NCO. The NBC NCO helps plan and conduct NBC operations. He is the primary advisor for all NBC matters. He gives advice on organization and training of company team NBC teams, supervises employment and maintenance of NBC equipment, and advises on mission-oriented protection posture (MOPP) levels and masking and unmasking procedures. The NBC NCO submits reports on nuclear and chemical attacks and contaminated areas to the battalion task force TOC. He advises on operational exposure guidance for radiological contamination and helps supervise unit decontamination. He helps obtain decontamination and smoke support. The NBC NCO coordinates with the first sergeant and the supply sergeant for resupply of NBC equipment. He operates well forward where he can perform these duties.

He normally operates from the XO's vehicle during the battle. In the tank company, he may operate from the FSV or the maintenance M113 if space is available.

(7) Armorer. The armorer performs organizational maintenance on the company team's small arms and processes work orders on damaged small arms he cannot repair. The armorer normally locates in the company team combat trains where he can quickly troubleshoot problems with small arms.

(8) Master Gunner. The master gunner is the expert on vehicle gunnery. He helps train the crews to put steel on target. He also assists the maintenance team turret mechanics in troubleshooting and repairing turret main armament and fire control systems. During the battle, he acts as gunner on the commander's tank, assists in commanding the vehicle, and helps monitor the tactical situation.

(9) Tactical Communications Chief. The tactical communications chief (mechanized infantry) assists in all aspects of tactical communications. He locates with the XO and operates the company team NCS. He establishes wire communications with the platoons as the situation requires. He receives and distributes signal operation instructions (SOI). He works with the maintenance contact team to repair and install radios during reorganization.

(10) Maintenance Team Chief. The maintenance team chief (attached from the battalion task force maintenance platoon) supervises the company maintenance team. He

leads the company team combat trains in the first sergeant's absence. The maintenance team chief decides whether damaged vehicles are to be repaired in place, or evacuated. He coordinates evacuation and repair with the battalion maintenance officer and manages the use of the company maintenance team mechanics and evacuation assets.

The maintenance team chief monitors the tactical situation and directs maintenance team personnel to damaged vehicles.

(11) Senior Aid man. The senior aid man (attached from the battalion task force aid station) supervises the company team medics. He administers first aid to casualties and helps train the soldiers to perform buddy aid. He can also train and direct company team combat trains personnel to assist in handling mass casualties.

He advises the first sergeant of the status of casualties and coordinates with him for additional evacuation and treatment assets. The senior aidman monitors the tactical situation, moving to evacuate casualties from platoon positions when required.

(12) Tank Commanders and Squad Leaders. Tank commanders and squad leaders command and maneuver vehicles, weapon systems, sections, and teams. They select and prepare fighting positions, enforce discipline, take care of soldiers and equipment, and lead, soldiers to victory.

(13) Individual Soldier. The individual soldier employs the weapon or weapon system to destroy the enemy. He maintains the equipment, reports what he sees, prepares for combat, and fights. If he understands what to do, his skill at improvisation, his initiative, and his character are the most important assets.

(a) Command. Weigh the mission requirements and the welfare of the soldiers. Demonstrate concern for the soldiers' well being and lead by personal example to inspire their confidence. Make sure that the missions handed down from higher headquarters are accomplished. A commander must often delegate authority down to subordinates. This reinforces and strengthens the chain of command. Do not abuse this delegation of authority. If it is your job, do it. Responsibility can never be delegated. When your subordinates succeed, it is their success. When they fail, accept the responsibility and initiate necessary corrective action.

(b) Command and Support Relationships. Sections and platoons, as well as the company, may be attached or cross attached to other units. The command relationship with other units establishes the lines of authority and support. A company could receive units under any of the following relationships:

- Elements assigned to the company, employed by the company commander, and supported with company assets (units, personnel, and equipment).
- Attached elements not organic to the company but employed by the company and provided logistical support in an operation. Except for assigned elements, this is the most common command relationship at

company level (for example, an infantry platoon attached to the company).

- Operational control (OPCON) elements not organic to the company, but employed as if they were attached. Because OPCON units may have unique equipment or other sustenance needs, you do not provide logistical or administrative support.
- Direct support elements answer directly to the company team's request for support. Logistical support is normally provided by the parent unit.

2. Informal Relationships.

There are relationships outside the formal ones (assigned, attached, OPCON, direct support) that should exist between units on the battlefield (Stinger or GSR teams operating in the area). Cooperation is essential to the overall success of the mission, even when formal relationships have not been defined.

Cooperation must occur when units—

- Are adjacent to each other.
- Occupy the same area.
- Maneuver through the same area.
- Are given parts of the same task to accomplish.

Close cooperation requires coordination. To know how they can help you or how you can help them, talk to the leaders of the other units. Find out whether the CS units in the area are getting the supplies they need. When helping the other units, you help your troops accomplish the mission.

Regardless of the command or support relationship, CS and CSS elements in or adjacent to the company teams area of operations should coordinate positions, resupply, and evacuation of casualties. The leaders of these elements should attend the company team order. This ensures position and maneuver coordination for mutual support, dispersion, and security. Start the coordination. The XO or first sergeant can help. In case of conflicting directives, ask the task force operations and training officer (S3) or commander for clarification. Do not let collocated CS and CSS elements endanger the unit or mission through lack of coordination.

3. Command and Control Operations.

Once combat begins, it may be difficult or impossible to control combat operations. The frictions of war can inhibit an operation so much that it quickly fails. The planning process is intended to cope with some of these problems before combat begins. This subparagraph provides techniques to help reduce confusion and execute the plan.

A commander must carefully select a position so the lead element or the most critical platoon can be seen. Use terrain and weather to conceal movements from the enemy, but maintain either visual or radio contact with the platoons. Use a navigator on the vehicle to maintain the current location on the ground. Synchronize actions with the other company commanders. When something critical happens, send the battalion commander a quick situation report (SITREP). The XO can help by reporting to the task force on the operations/intelligence net (if there is one) or on the task force command net. If

contact with the battalion is lost, take every step possible, short of abandoning the mission, to reestablish communications.

Until communications are restored, continue to take actions that accomplish the battalion commander's intent best. The XO can monitor the battalion frequency, make reports to the battalion on the tactical situation, and keep track of the locations and actions of adjacent and supporting units. When direct contact with one or more platoons is not possible, the XO may serve as a radio relay or be positioned so he can control those elements.

See the battlefield. Constantly probe for information about the enemy and the terrain. Be prepared to change and update the estimate of the situation at any time. Think ahead and identify potential threats and opportunities. When it becomes clear that the original concept does not work or a better alternative presents itself, modify the plan rapidly and aggressively to fit the changing situation.

Issue timely and clear FRAGOs. Tell the platoon leaders what restrictions are in effect, what the intent is, what their mission is, where to move, where to point their weapons, and when to shoot. Issue warning orders to give the platoons time to react to all possible upcoming missions. Keep subordinates posted on the enemy situation and what other units in the task force are doing.

Demand that subordinates maintain contact with you, and keep you informed of their situation. If you cannot communicate with subordinates you have lost control of the situation and failed in the primary mission on the battlefield. If the platoon leader is issuing instructions on his net or is dismounted, make sure that the platoon sergeant is monitoring the company command net. Drill subordinates in spot-report and SITREP procedures.

Encourage the platoon leaders to talk to each other and coordinate their actions. Use SOP drills and tactical techniques that are simple and can be cued by brief commands. Use checkpoints and terrain features to control maneuver to specific positions. Use TRPS, cardinal direction, and the clock system to orient fires.

Ensure all-around security so there is time and space to react. The SOP should specify vehicle and personnel responsibilities when moving. Establish OPs when stopped, even for a short time. Make sure that the elements maintain good dispersion laterally and in-depth. Do not let the unit become fragmented after a rapid dash across an open area. Use dash speed over short stretches to maintain control and orientation of the movement.

Take measures to avoid fratricides. Enforce recognition signals during passage of lines, relief in place, and any situation where two different elements are collocated. Keep subordinates posted on friendly locations within the field of view. Fire only on positively identified enemy targets across boundaries and where friendly units are known or suspected to be located. During limited visibility, take special precautions, use visual signals that can be seen with the naked eye, and make sure that the crews know how to recognize enemy vehicles through thermal sights.

4. Succession of Command.

It is essential that personnel outlined in the succession of command thoroughly understand the intent and concept of the operation so, if the situation arises, they can take command of the unit and execute

the mission successfully. Explain the succession of command within the organization. Normally, the succession of command is governed by the company SOP but it may be realigned based on unit mission or personnel turbulence. Put the succession of command in paragraph 5 of the OPORD. An example of a succession of command would be:

- Commander.
- XO.
- 1st Platoon Leader.
- 2d Platoon Leader.
- 3d Platoon Leader.
- FSO.
- First Sergeant.

When giving the order give the location of each leader, if different from the company SOP. As a minimum, tell where you locate and where the XO locates. Position yourself at the most critical location and the XO at the second most critical location.

5. Communications.

The communication (signal) means available to the company team depends on the individual skills of the soldiers, the equipment, and the desires of the company team commander. Skill in communications depend greatly on the SOP and how well the unit is trained in that SOP. Different means of communication have different capabilities and limitations. Each should complement the other so the company does not rely on one particular mean. Dependence on one mean endangers command and control, while use of several means strengthens that control. This builds redundancy into the command and control system.

The company has four basic means of communication: wire, messenger, sound and visual signals, and radio.

- a. Wire. Use wire as the primary means of communication for OPs, fixed battle positions, strongpoints, combat trains, and assembly areas.
- b. Dispatched Messengers. Dispatch messengers when the unit occupies an assembly area or battle position or consolidates on an objective. Move messengers from platoon vehicles to platoon, then platoon to company. For example, individual soldiers are dispatched to the platoon sergeant's vehicle to report their status. The platoon leader dispatches a messenger to the commander's vehicle to receive any instructions on consolidating the platoon. The platoon sergeant dispatches a messenger to the XO's vehicle to report the status of the platoon. On consolidating the unit status, the XO dispatches a messenger to the first sergeant and personally reports the status to the commander. Messengers are slower and more vulnerable to hostile fire than other means of communication, but they are also the most secure method of communication. Messengers should rehearse routes if possible, both in daylight and darkness, and should carry written messages to enhance accuracy. (The use of messengers should be covered in detail in the company SOP).

- c. Sound and Visual Signals. Include sound and visual signals in the battalion SOI or company SOP. Signals not included in the SOI may be established for use within the company provided they are changed frequently to avoid being compromised and understood by all. Sound and visual signals include lights, flags, hand signals, pyrotechnics, and different types of noise (metal on metal, rifle shot, whistle, bell).
- d. Radio. Radio is the primary means of communication when enemy contact is made. To avoid detection by enemy direction finding equipment, the company must use all other means to communicate until it becomes absolutely necessary to use the radio. Brevity on the radio is the key in reducing EW signature.

The commander operates the company net and monitors the battalion net. The XO operates on the battalion command net and monitors the company net. The first sergeant operates on the battalion ALN and monitors the company net (if he has two-net capability). Platoon leaders operate on their net and monitor the company net. (See [Figure 1-46](#).)

Sometimes all stations can be on the same net, such as the company command net. This facilitates quick or simultaneous response, overcomes the temporary breakdown in command when key leaders are lost, and gives maximum control over the unit. Serious drawbacks include —

- More susceptibility to jamming and unintentional interference or override.
- Overloading the net, unless the platoon practices strong net discipline.
- Difficulty reestablishing communications quickly on the platoon nets.

Depending on the training and discipline of the unit, this technique may be used during long road marches, while in assembly areas, while in a reserve position, or when consolidating survivors after a battle.

The XO must keep the commander informed yet avoid transmitting trivial data. He monitors the battalion command net and relays critical information received on that net as necessary. The XO coordinates or directs movement and support that the commander

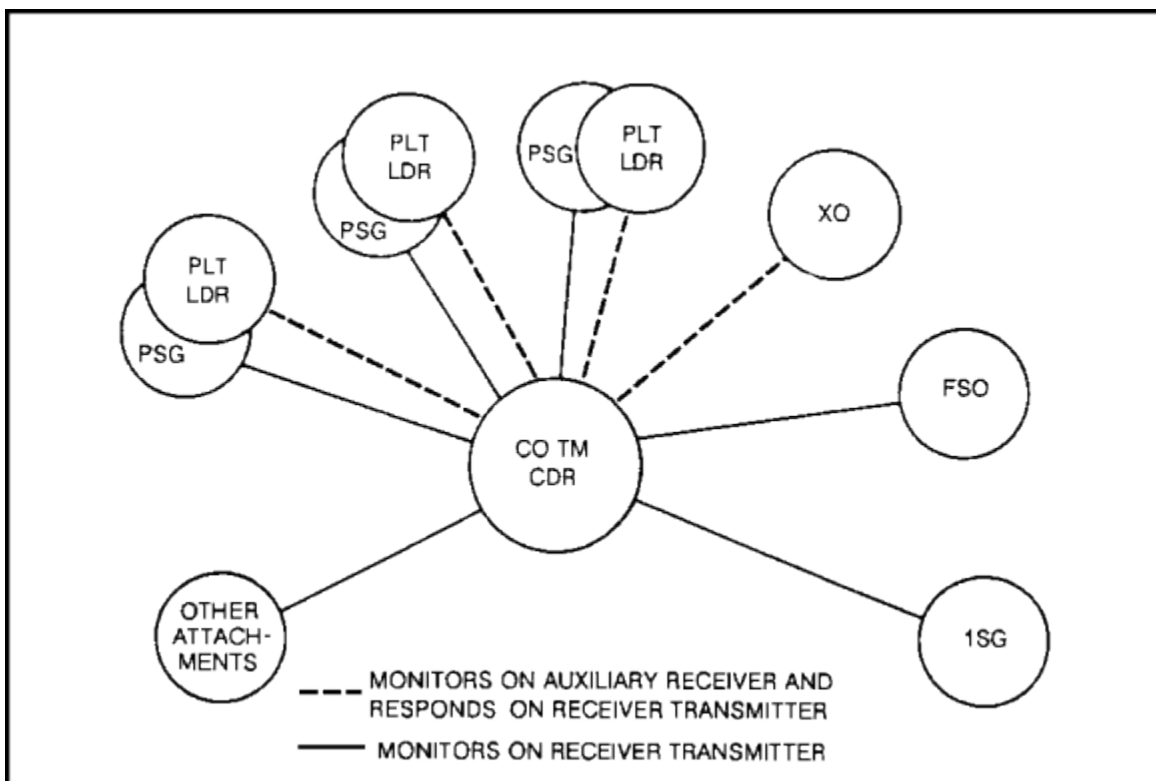


Figure 1-46. Company team command radio net

cannot control from his forward position. The XO basically frees the commander to fight the battle.

The eavesdrop system allows information passed over the command net to be used effectively. It is used on all nets from battalion down to platoon. This system requires certain stations to monitor message traffic on a given net, even if they are not the direct recipients of the message. Command net traffic is sent to or from the commander. The platoon leaders, XO, company FSO, and first sergeant monitor the traffic and take appropriate action.

During the battle, lateral communications between platoon leaders and between commanders is critical. Platoon leaders must talk to each other throughout the battle to stay informed about what is happening on the battlefield. Each platoon leader tells the platoon leader on his flank or rear what the enemy is doing, what actions he is taking and what his plans are, and provides recommendations to the other platoon leaders and the company commander. The company team commander monitors the lateral communications between platoons and knows exactly what is happening in his area. The commander gives orders based on the tactical situation. All platoon leaders monitor the command net and transmit critical information.

To maintain effective radio communications—

- Keep radio transmission time short (10 seconds).
- When a long report must be submitted by radio, use the word break to break the message into smaller segments.
- Make clear, concise transmissions.

- When direct radio contact is broken, set up relays. If this fails, go to high ground to reestablish contact.
- Submit initial enemy contact reports immediately. Send more complete information later.
- Police the net. Transmissions should be prioritized. A suggested priority list is—
 - Initial contact with the enemy.
 - Major changes in the situation.
 - Fire coordination (lifting fires, shifting direct fire, adjusting artillery, artillery target effect).
 - NBC-1 report.
 - Full spot reports.
 - Shelling reports (SHELREP).
 - Obstacle reports (such as bridge classifications).
 - Logistical reports (may receive a higher priority during the late stages of an engagement).

Be prepared for the unexpected. React quickly when communications fail. Training, SOPs, and tactical techniques become critical in the absence of electronic communications. The most clear and concise order that can be given is, "Follow me, do as I do."

e. Communication Responsibilities. All levels of command must gain and maintain communications with the appropriate headquarters and personnel. Traditional communication responsibilities are—

- Senior unit establishes communications with a subordinate unit. An attached unit is subordinate to the command to which it is attached.
- Supporting unit establishes communications with the supported unit.
- Reinforcing unit establishes communications with the reinforced unit.
- The next higher commander or the SOP tells how communications are established between adjacent units. If responsibility is not stated in the orders, the commander or leader on the left establishes communications with the unit on the right (left to right). The commander of a unit positioned behind another unit establishes communications with the forward unit (rear to front).
- Regardless of the responsibility, all units take prompt action to restore lost communications.

f. Communications Security and Discipline. Communications security (COMSEC) denies or delays unauthorized persons from gaining information of value from telecommunications and effectively interrupting communications. The company team commander achieves COMSEC by enforcing authentication procedures to make sure only authorized stations are on the net and by restricting the use of radio transmitters.

Restrict radio transmitters to administrative use only when out of enemy contact. Normally, all radios other than the commander's and subordinate leader's should be on radio-listening silence. Silence is broken only on enemy contact or when orders need to be passed. Establish conditions

under which radio restrictions may be broken. Make sure these conditions are clearly understood by all operators.

SOPs or orders must reflect—

- Use of wire or messenger whenever possible.
- Reduced transmission times.
- Net discipline strictly enforced by each subordinate leader.
- Antennas sited with a terrain feature between them and the enemy.

g. Antijamming and Direction Finding. Antijamming procedures used by radio operators include: recognition, continued operations, reporting, use of low power, antenna masking, frequent authentication, and actions on effective jamming.

- Recognition. Operators attempt to identify the cause of interference. Do not automatically assume the enemy is employing jamming techniques. Symptoms are often similar to other types of radio interference. Remove the receiver antenna to determine whether a signal is being generated internally by the receiver. If the interference decreases with the antenna removed, the interference is external and the problem may be enemy jamming.
- Continued Operations. Continue normal radio operations after jamming has been identified. This may mislead the enemy about the effectiveness of jamming. Continue normal operations until orders are received to clear the net.
- Reporting. All operators must report jamming to higher headquarters. Send this report by another means of communications, such as wire, messenger, or secure FM radio.
- Use of Low Power. Low-power transmission reduces the chance that the enemy detects the signal. If the signal cannot be heard, the transmitter cannot be located by radio direction-finding equipment.
- Antenna Masking. An easy way to defeat radio direction finding is to hide radio signals behind terrain. Radio waves bend and are reflected by buildings and mountains. When this happens, it is difficult to determine the origin of the wave, but the strength of the signal is affected very little. Keep radio antennas as low as possible and still maintain adequate communications with subordinate, higher, and adjacent units.
- Frequent Authentication. Make sure radio operators and leaders are aware of imitative communication deception (ICD). The enemy frequently uses ICD to prolong communications. Encourage operators to recognize the voices of the frequent operators. Use secure radio equipment to help alleviate ICD. If suspicious stations enter the net, immediate authentications should be required.
- Actions on Effective Jamming. The unit SOP establishes the procedure to follow on effective jamming of a company net. The company team commander or, in his absence, the XO makes the decision to switch to another net. When changing frequencies, try to leave one radio temporarily on the old frequency to police the net of any station that missed the code word to change frequencies. Beware of attempts to solicit the new frequency by unidentified stations in the old net. Report frequency changes to higher

headquarters as soon as possible along with the meaconing, intrusion, jamming, and interference report (MIJIFEEDER).

Practice Exercise

Lesson 1

Instructions The following items will test your understanding of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answers with the answer key that follows. If you answer any item incorrectly, review that part of the lesson which contains the portion involved.

Situation: You are the commander of a mechanized infantry battalion rifle company (M113). You are considering task force functions in regard to the seven battlefield operating systems that you must integrate to support your commander's intent. Use this situation and Figures 1-47 and 1-48 to answer the questions in this exercise.

1. You can destroy enemy tanks with your long-range TOW missile fire up to how many meters?

☐ A. 1,000.
B. 1,850.
C. 2,500.
D. 3,750.
2. To ensure that you can best see, hear, and influence the battle, you select which of the following locations from which to operate as commander?

A. Forward.
B. Rear.
C. Primary.
D. Supplementary.
3. You use 81-mm mortars to suppress enemy ATGM sites. You can engage these targets to a maximum range of how many meters?

A. 3,500.
B. 4,789.
C. 6,840.
D. 11,500.

4. During combat, an enemy tank appears. You have not planned to attack this tank. However, you engage it as what type of target?
- A. Opportunity.
 - B. On-call.
 - C. Scheduled.
 - D. Priority.

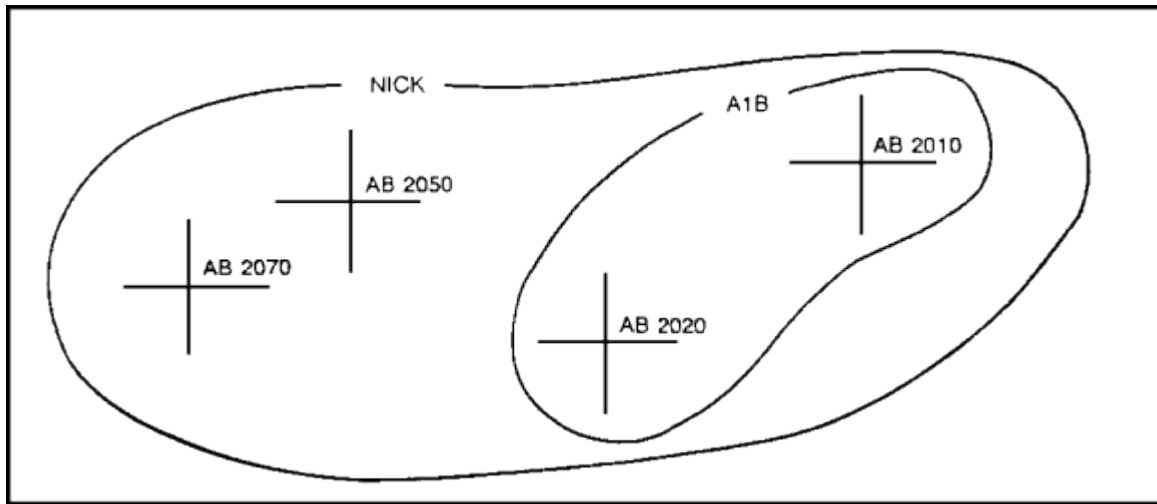


Figure 1-47. Target type

5. You and your FSO are discussing possible targets. The FSO refers to one represented by the symbol shown in Figure 1-47. You identify this target as which of the following types?
- A. Linear.
 - B. Group.
 - C. Series.
 - D. Priority.
6. As an offensive application, you direct that the type of target represented by the symbol shown in Figure 1-47 be
- A. used to screen flanks with high explosives along attack areas.
 - B. used to attack enemy counterattack formations along highspeed avenues of approach.
 - C. used to engage several targets close together to create an assailable flank.
 - D. planned to support the assault on your objective.

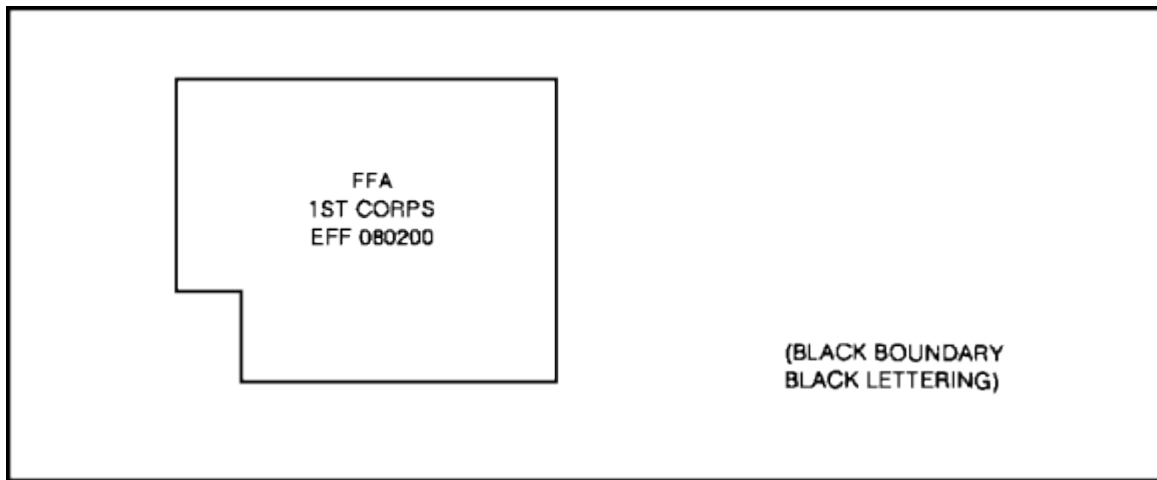


Figure 1-48. Fire support coordinating measure symbol

7. You use the symbol shown in Figure 1-48 to indicate which of the following fire support coordinating measures?
 - A. Coordinated fire line (CFL).
 - B. Fire support coordination line (FSCL).
 - C. Free-fire area (FFA).
 - D. No-fire area.
8. Your response to enemy aircraft attacks in your assigned sector is that of
 - A. returning fire.
 - B. waiting on the command to fire.
 - C. performing weapons-free control status.
 - D. surrendering.
9. For planning purposes, you consider a Stinger missile's range to be how many kilometers?
 - A. Two.
 - B. Five.
 - C. Ten.
 - D. Twelve.

10. You assign which of the following individuals the responsibility of supervising the evacuation of casualties, enemy prisoners of war, and damaged equipment?
- A. Executive officer.
 - B. First sergeant.
 - C. Supply sergeant.
 - D. Battalion S4.
11. You requisition which of the following classes of supply through the S4?
- A. III.
 - B. IV.
 - C. VII.
 - D. IX.
12. Your mechanized infantry platoon (BFV) will travel cross country at top speed for two hours. At the end of their travel, they will have moved how many kilometers?
- A. 24.
 - B. 48.
 - C. 72.
 - D. 96.
13. When you order a hasty dismount of a BFV, only which of the following crew members dismount?
- A. Platoon leader and platoon sergeant.
 - B. Platoon sergeant and gunner.
 - C. Gunner and Bradley commander.
 - D. Squads.
14. You assign the responsibility of acquiring targets to which member of the BFV crew?
- A. Platoon leader.
 - B. Platoon sergeant.
 - C. Bradley commander.
 - D. Squad leader.

15. In cross training, you give special consideration to squad leaders because they may have to be
- A. Bradley commanders.
 - B. platoon sergeants.
 - C. gunners.
 - D. drivers.
16. For observation posts (OPs), you use which of the following as the primary means of communication?
- A. Wire.
 - B. Messenger.
 - C. Sound and visual signals.
 - D. Radio.
17. To maintain effective radio communications, you ensure that radio transmission time is no longer than how many seconds?
- A. 10.
 - B. 30.
 - C. 45.
 - D. 60.

LESSON 2

MECHANIZED BATTALION TASK FORCE RESOURCES AND OPERATIONAL SYSTEMS

OVERVIEW

LESSON DESCRIPTION:

In this lesson, you will learn to identify and select the resources that are either organic, attached, or in support of a mechanized battalion/task force, in terms of the seven operational systems.

TERMINAL LEARNING OBJECTIVE:

ACTION: Identify and select the resources that are either organic, attached, or in support of a mechanized battalion/task force, in terms of the seven operational systems.

CONDITION You will have access to information in lesson 2.
:

STANDARD: Identifying and selecting the resources that are either organic, attached, or in support of a mechanized battalion/task force, in terms of the seven operational systems.

REFERENCE The material contained in this lesson was derived from the
: following publication: [FM 71-2](#).

INTRODUCTION

This lesson provides you with instruction as to how to identify and select the resources that are organic, attached, or in support of a mechanized battalion/task force, in terms of seven battlefield operating systems. These resources enable the mechanized battalion/task force to accomplish a great variety of combat and combat-related missions which, otherwise, they could accomplish only with great difficulty or not at all.

PART A - ORGANIC, ATTACHED, AND SUPPORTING RESOURCES OF THE MECHANIZED BATTALION/TASK FORCE

1. Mission.

The missions of mechanized infantry and tank battalions in their pure configuration are—

- The mission of the mechanized infantry battalion is to close with the enemy by means of fire and maneuver in order to destroy or capture him, or to repel his assault by fire, close combat, and counterattack.
- The mission of the tank battalion is to close with and destroy enemy forces using fire, maneuver, and shock effect, or to repel his assault by fire and counterattack.

Battalion task forces accomplish missions and tasks as part of a brigade's operation. Occasionally, task forces conduct operations directly under a division's or an armored cavalry regiment's control, such as when participating in the higher headquarters covering force, acting as a reserve, or forming a tactical combat force in rear area operations.

2. Capabilities.

The capability of the tank and mechanized infantry battalions is increased through task organization. Based on his estimate of the situation, the brigade commander task-organizes tank and mechanized infantry battalions by cross-attaching companies between these units. As a rule, cross-attachment is done at battalion, because battalion has the necessary command and control and support capabilities to employ combined arms formations. The brigade commander determines the mix of companies in a task force. Similarly, the task force commander's estimate may require cross-attaching platoons to form one or more company teams for specific missions.

Tank and mechanized infantry battalion task forces apply their mobility, fire power, and shock effect to —

- Conduct sustained combat operations in all environments.
- Accomplish rapid movement and limited penetrations.
- Exploit success and pursue a defeated enemy as part of a larger formation.
- Conduct security operations (advance, flank, or rear guard) for a larger force.
- Conduct defensive, retrograde, or other operations over assigned areas.
- Conduct offensive operations.

3. Limitations.

Because of the high density of tracked vehicles, the battalion has the following limitations:

- Mobility and fire power are restricted by urban areas, dense jungles and forests, very steep and rugged terrain, and significant water obstacles.
- Strategic mobility is limited by substantial quantities of heavy equipment.
- Consumption of supply items is high, especially Classes III, V, and IX.

Battalions are task-organized according to mission and are routinely augmented to improve engineer, fire support, air defense, intelligence, and CSS capabilities.

4. Organization and Functions of a Mechanized Infantry/Task Force.

A tank or mechanized infantry battalion consists of pure companies under the command of a battalion headquarters. It participates in brigade or division operations.

- a. Battalion Commander. The fighting characteristics of a battalion are a reflection of the character of the battalion commander. Bold and tenacious battalion commanders have bold and tenacious battalions. If a commander is tactically skillful and innovative, history supports that most of his battalion's missions will be successful and his battalion will suffer minimum casualties. Battalion commanders who possess the technical, tactical, and leadership skills, and teams out of individual soldiers and units, win—even if outnumbered. Battalion commanders

who are also competent and courageous can successfully lead soldiers on the dynamic, lethal, and chaotic modern battlefield.

Because the battalion task force commander must organize his task force based on the mission, enemy, terrain and weather, troops and time available (METT-T), he must have an understanding of all of the tools at his disposal. Then, he must effectively combine these tools for each tactical situation. The commander achieves maximum effectiveness from the battalion task force by being aware of all of his assets and knowing how to employ them.

- b. Subordinate Commanders. The company team commanders and special-purpose platoon leaders directly influence the battle by employing their fire and maneuver elements in a way that accomplishes the mission. They are the commander's principal assistants for fighting the battle. They must understand the commander's concept and know the capabilities and employment techniques of their combat assets as well as the combat support assets provided to them by the task force commander.
- c. Battalion Staff. The battalion is the lowest tactical echelon with a staff. Small but essential, they assist the commander in doing all those things necessary to coordinate the battle and to ensure adequate combat and combat service support to allow for continuous operations. The commander is then free to fight the battle. Supply, maintenance, communications, administration, and reporting are all supervised by the staff. The staff normally conducts much of its business in accordance with SOPs. The staff ensures continuous support to the company teams to allow them to fight the battle.
- d. Scout Platoon. The battalion scout platoon performs reconnaissance, provides limited security, and assists in controlling movement of the battalion task force. The platoon is not organized or equipped to conduct independent offensive, defensive, or retrograde operations. It operates as part of the battalion and should be assigned missions that capitalize on its reconnaissance capabilities. The scout platoon is one of the commander's primary sources of combat intelligence before the battle and is his eyes and ears during the battle.
- e. Mortar Platoon. Mortars are organic to the battalion. They are high-angle, relatively short-range, area fire weapons, well suited for providing close indirect-fire support to maneuver
- f. Communication Platoon. The battalion communications platoon is responsible for establishing and operating the battalion radio and wire communications systems. In addition, the platoon provides couriers to supplement the battalion liaison officers.
- g. Support Platoon. The support platoon provides organic transportation, as well as Class I, Class III, and Class V resupply to the battalion. It is composed of a platoon headquarters, ammunition section, POL section, transportation section, and mess section. The platoon provides the majority of the battalion's combat service support.
- h. Medical Platoon. The battalion medical platoon is responsible for providing treatment and evacuation of casualties.

i. Maintenance Platoon. The battalion maintenance platoon is structured to maintain, evacuate, and repair the vehicles in the battalion. It is organized into a platoon headquarters, an inspection and quality control section, a maintenance administrative section, a recovery support section, a maintenance/services section, and company maintenance teams.

j. Combat Support. In addition to the organic mortars, the task force commander receives additional fire support from divisional and nondivisional units. The commander must integrate and synchronize his supporting fire support elements to suppress and destroy the enemy in support of the maneuver plan. Synchronization also requires close coordination with adjacent units and Army aviation assets. Combat support assets normally available to the battalion task force are—

- Cannon field artillery.
- Close air support.
- Air defense artillery.
- Engineers.
- Military intelligence.

(1) Cannon Field Artillery. Refer to Lesson 2, subparagraph 2c(2)(b), for information concerning cannon field artillery.

(2) Naval Gunfire. When operating near a coastline with gunfire support ships within range, naval gunfire can be an effective fire support means.

US Army units have only a limited organic capability to control naval air or naval gunfire. This capability is normally provided to a division by the US Marine Corps in the form of an air naval gunfire liaison company (ANGLICO). There are two organizations within the ANGLICO. Depending on which organization is available, the battalion task force receives either a shore fire control party (SFCP) or a battalion supporting arms liaison team (SALT) and firepower control teams (FCT). These ANGLICO elements have the mission to request, coordinate, and control naval air and naval gunfire.

(3) Close Air Support. Tactical air support is provided by a tactical air control party (TACP), control of tactical air strikes, close air support (CAS) and requests for CAS, a forward air controller (FAC) and a fire support officer (FSO), and the use of airspace coordination areas (ACAs).

(a) Tactical Air Control Party. A TACP operates with the task force to advise the commander and his staff on integration of close air support with ground operations and to coordinate and direct close air strikes. The TACP consists of a FAC and two tactical aircraft command and control specialists. Normally, the FAC operates with the command group in a tracked vehicle provided by the task force.

(b) Control of Tactical Air Strikes. Tactical air strikes are normally controlled by forward air controllers. The FAC is a fighter pilot who is familiar with the

ground tactical situation and is trained to control strikes. In an emergency, when a FAC is not available, an artillery fire support team or the leader on the scene can perform the FAC function. The basic requirement is to locate and describe the target and friendly position for the fighter pilot. This information may be relayed to the pilot, using any means available. Normally, the fighter aircraft employs only UHF radio equipment for voice communication. The ground commander can use FM to contact aerial FACs, ALOs, and Army aircraft, all of whom have a UHF relay capability.

(c) Close Air Support Missions. CAS missions may be either preplanned or immediate. Preplanned missions are requested a day ahead through S3 Air channels. Preplanned missions allow detailed coordination and integration of maneuver, CAS, and other combat support elements into the tactical plan. They also allow ordnance loads to be tailored precisely to the enemy forces to be attacked. At task force level, preplanned CAS missions are usually planned in support of deliberate attacks because times on targets are fixed. Preplanned missions do have a measure of flexibility in that the location of the strike can be adjusted by the TACP after the aircraft arrive.

(d) Request for Close Air Support. Requests for planned CAS missions are developed and listed in priority order during the planning phase. The FSO, S2, and ALO determine the suitability of the target for air attack and consider potential airspace conflict. CAS requests are then forwarded to brigade. The brigade informs the battalion of the missions that were approved, and the fire support plan is adjusted.

Immediate missions are most frequently used by the task force. Immediate requests are filled by aircraft on ground alert or by diverting aircraft from other missions. Requests for immediate CAS go directly from the task force FAC through Air Force channels and are processed unless intermediate monitoring headquarters disapprove the request within five minutes. Immediate missions normally take at least 30 minutes to arrive on station.

(e) FAC and FSO Roles. The FAC must position himself to control the friendly aircraft. He notifies the task force commander that friendly aircraft are inbound. This warning is retransmitted to the task force to prevent mistaken engagement of friendly aircraft during the strike. He gives the aircraft personnel a briefing on the friendly and enemy situation. Positive identification of friendly forces must be made before the strike. This may require marking actions by forward elements (for example, colored smoke grenades) or marking of the target area by artillery, and mortars.

The FAC and FSO coordinate airspace coordination areas (ACAS) with brigade and the task force's senior air defense representative. ACAs are normally developed and coordinated by brigades with recommendations from the task

force. ACAs are either two-dimensional (informal) or three-dimensional blocks of airspace whose purpose is to give friendly aircraft the airspace needed to enter, attack enemy targets, and exit. Friendly indirect fire weapons are not allowed to fire into ACAs. The size of ACAs is a function of the type of aircraft, terrain, and CAS tactics required. ACAs are selected to allow both effective CAS tactics and minimum restriction of indirect fires. ACAs must follow prominent terrain to allow identification by pilots and have sufficient room for aircraft maneuver. A planning figure for ACA width that permits aircraft to employ proper attack tactics is five to six kilometers. Ingress and egress corridors can be as narrow as one kilometer and are usually keyed to prominent terrain features such as ridgelines, valleys, or roads.

(f) Airspace Coordination Areas. Insofar as possible, ACAs are coordinated to decrease a friendly aircraft's vulnerability. In addition, engagement priorities for direct fire weapons are given to destruction of enemy ADA weapons when CAS is being used.

Because of the difficulty in coordinating optimum ACAs, timing ACAs is important. They should be implemented just before arrival of aircraft and be canceled immediately as the aircraft leave.

k. Tactical Air Support. Tactical air support provided by the USAF consists of offensive air support (OAS), counterair, air interdiction, and tactical airlift ([Figure 2-1](#)).

(1) Offensive Air Support. OAS is the element of tactical air support normally conducted in support of ground operations. It consists of tactical air reconnaissance, battlefield air interdiction, and close air support.

(2) Tactical Air Reconnaissance. Tactical air reconnaissance is the acquisition of intelligence information using visual observation and/or sensors in aircraft.

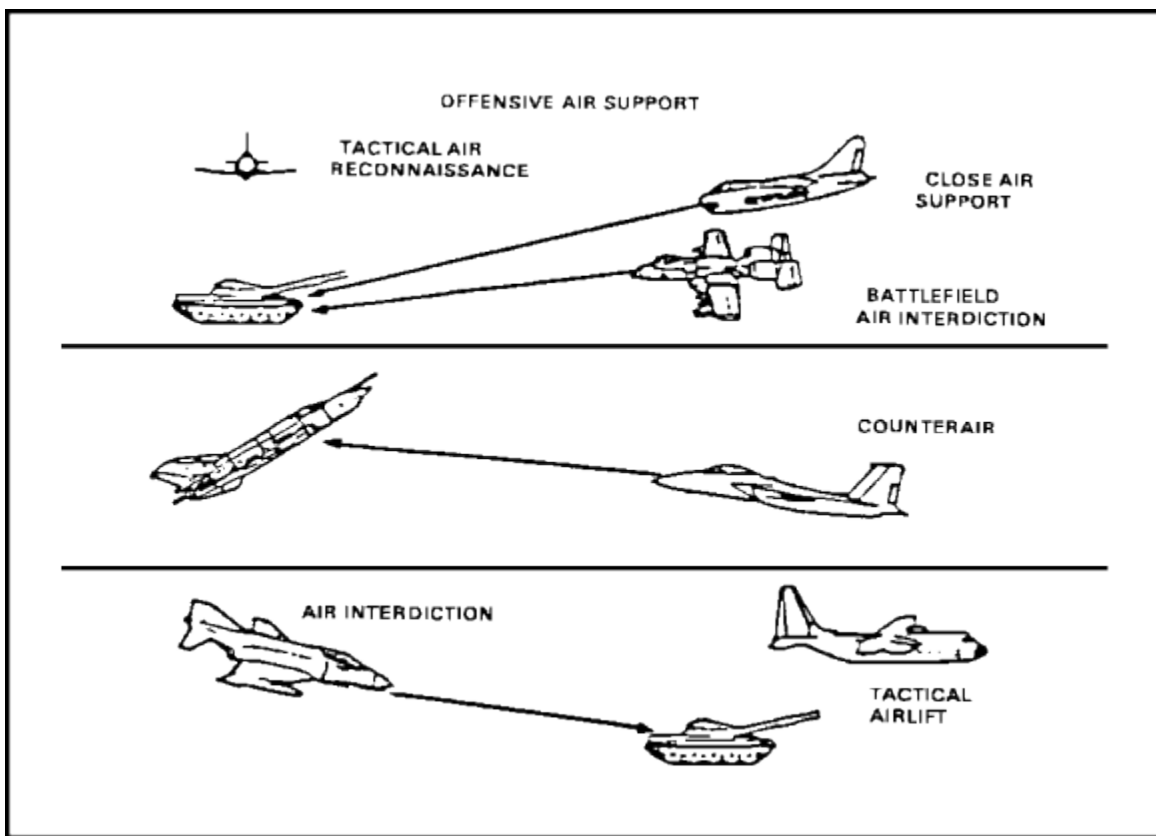


Figure 2-1. Tactical air support

- (3) Battlefield Air Interdiction. Battlefield air interdiction is air action against enemy forces and resources that are in a position to directly affect friendly forces.
- (4) Close Air Support. CAS is air action against targets close to friendly forces. Each mission must be carefully controlled and requires detailed integration with the fire and movement of those forces. This is the role in which USAF aircraft normally support the task force. CAS provides a variety of ordnance and high payloads. The payload of a single A-10 is the equivalent of firing five to seven volleys from a 24 tube, 155-mm howitzer artillery battalion.
- (5) Aircraft in Support of Ground Forces Considerations. The use of aircraft to support ground forces is subject to the following planning considerations.
- Air support is not available at all times. Even when planned, it may be diverted to a higher priority mission (immediate).
 - Immediate requests may restrict indirect fires and comes with whatever ordnance has already been loaded—not necessarily the optimum weapon for a particular target.
 - Air support may be limited by weather and enemy air defense systems.
 - Different support aircraft have varying capabilities to remain on station (loiter time).

- Target identification is difficult, so marking of enemy and friendly locations is required when in close contact.
- As long as the enemy has an effective air force, the emphasis is on counterair. As the battle progresses and the enemy's air capability is reduced, the emphasis shifts to CAS or other OAS.

l. Air Defense Artillery. An effective system for the dissemination of timely early warning greatly enhances the effectiveness of both active and passive air defense measures.

(1) Passive and Active Air Defense. This subparagraph discusses passive and active air defense measures.

(a) Passive Measures. Passive air defense measures consist of all the measures taken to preclude the enemy from locating the unit. Target detection and acquisition from highperformance aircraft is difficult. In most cases, enemy pilots must be able to see and identify a target in order to attack. The task force should follow certain guidelines.

- When stopped, occupy positions that offer natural cover and concealment, dig in, and camouflage vehicles that are exposed. When moving, travel by covered and concealed routes.
- Disperse vehicles as much as possible, to make detection and attack difficult.
- Wipe out track marks that lead to a position.
- If moving when an enemy aircraft attacks, disperse and seek cover and concealment.
- Do not fire on a hostile fixed-wing aircraft unless it has identified a friendly vehicle or location. Premature engagement compromises friendly locations.
- Require air guards in each section or in each position.
- Establish an air warning system in the SOP. Include both visual and audible signals.

(b) Active Measures. Air defense for the task force is provided by its organic individual and crew-served weapons, and by nonorganic supporting air defense artillery units. The firepower of the task force's machine guns, 25-mm guns, and small arms massed against an attacking aircraft is a formidable air defense system. TOWs and tank main guns can also be up against slow moving helicopters.

(2) Relationship and Missions. The brigade commander may retain all available ADA under his control, or assign a portion of the ADA to the task force with a support relationship such as DS or attached. Normal task force organization may include a section of Stingers and a platoon of air defense gun systems.

The senior air defense officer functions as a special staff officer during the planning process. He provides his estimate and recommendations to the task force commander. ADA elements with a GS mission may, in many instances, provide incidental coverage over the task force area, and should be considered in the planning process.

To properly employ air defense assets, the commander must—

- Assign tactical missions to the ADA element.
- Establish priorities for air defense. For example, main effort, choke points, axes.

The ADA unit leader positions his weapons as necessary to support the task force. The task force provides CSS to the attached ADA elements and coordinates with the ADA headquarters for the additional CSS equipment and personnel required for the ADA attached element.

(3) Systems and Characteristics. This paragraph contains an overview of air defense weapons systems most often placed in support of the task force.

(a) Stinger. The Stinger man-portable air defense system (MANPADS) is used to counter high-performance, low-level ground attack aircraft, helicopters, and observation and transport aircraft. A Stinger section includes a headquarters element with a section chief and a driver and three to five Stinger crews. Each two-man Stinger crew has an M998 with six infrared homing (heat-seeking) Stinger weapons in the basic load. The range of the Stinger is in excess of 4,000 meters.

(b) Vulcan. The Vulcan system is used for forward area air defense against low altitude aircraft. Because its aerial range is only 1,200 meters, it is normally employed in conjunction with the Stinger. Each Vulcan carries a four-man crew and two Stingers. The Vulcan's maximum rate of fire is 3,000 rounds per minute, but it only carries 1,100 rounds in the weapons and 1,000 rounds ready to load. Ammunition resupply for the four-squad Vulcan platoon is provided by a five-ton cargo truck or M548. The platoon also has an M113 and M998.

m. Weapons Control. Weapons control is provided through the use of rules of engagement, degrees of control, and weapons control status.

(1) Rules of Engagement. Air defense rules of engagement are directives that specify the circumstances under which an aircraft can be engaged. Weapons control status is established by higher headquarters. Stinger crew leaders and Vulcan squad leaders are responsible for deciding whether an aircraft is hostile or friendly.

(2) Degrees of Control. Weapons control status describes the relative degree of control exercised over air defense weapons:

- Weapons Free. You may fire at any aircraft not positively identified as friendly (least restrictive).
- Weapons Tight. You may fire only at aircraft positively identified as hostile.

- Weapons Hold. Do not fire except in self-defense or in response to a formal order (most restrictive).

(3) Weapons Control Status. Weapons control status is disseminated by the airspace management elements at division and corps. The task force commander has the authority to impose a more strict weapons control status than that dictated by higher headquarters. However, he may not go to a less restrictive status.

n. Early Warning System Standing Operating Procedure (SOP). The early warning system for the division is standardized throughout the division and should be published in the task force (TF) SOP.

(1) Standard Air Defense Warnings. Standard air defense warnings (alert postures) are:

(a) Red. Red indicates that attack by aircraft or missiles is imminent or in progress.

(b) Yellow. Yellow means that attack by aircraft or missiles is probable.

(c) White. White indicates that attack by aircraft or missiles is improbable.

(2) Employment. When ADA elements are in direct support or attached to the TF, they assist in early warning since they monitor the division early warning net. The senior air defense officer or NCO enters the TF command net to pass early warning information.

Early warning for the task force may also be obtained over the brigade command and O&I nets. The air defense liaison officer at the brigade TOC monitors the division early warning net and relays information and early warning of enemy air activity in the brigade area.

(3) Initiation. Early warning is immediately broadcast to task force subordinate elements by the main CP on the task force command net. It should include warning and direction of attack. The warning may be a simple statement or codeword to indicate an air attack. The direction of attack may be given as a cardinal direction, as a quadrant, or by using a clock system. Example: "Dynamite (the unit's codeword for air attack), ten o'clock."

(4) Actions Upon Initiation. Early warning is also initiated by persons within the task force. The first person who observes a hostile aircraft must initiate the early warning by passing it over the TF command net. The warning must be passed in turn to higher and lower nets. Once the alert is terminated, that information is passed. If friendly aircraft are in the area, that information should also be passed.

o. Employment Considerations of ADA. This subparagraph discusses the considerations to make in employing ADA.

- (1) Determination of Avenues of Enemy Approach. Determination of air avenues of approach is accomplished by the joint efforts of the S2, AD officer, and ALO and disseminated to subordinates.
- (2) Characteristics of Avenues of Approach. Primary characteristics of air avenues are:
 - Rotary and fixed-wing aircraft use terrain mask to avoid ADA fires and radar detection.
 - Overflight of friendly positions is avoided.
 - Major terrain features are used to assist in navigation.
- (3) Threat Attack Helicopters. Threat attack helicopters with stand-off ATGM capabilities are employed in pairs. Synchronized with ground elements, they can be expected to attempt flanking attacks using concealed routes to concealed firing positions. The mobility of the attack helicopter threat increases the need for all-round security, passive air defense measures, and forward positioning of air defense weapons.
- (4) Threat CAS. Threat CAS capability includes smart munitions and other advanced ordnance loads. The threat's primary use of CAS is against positions in depth, such as when the task force is in reserve. In such roles, the use of passive measures is of critical importance.
- (5) ADA Support Priorities. The task force's employment of ADA support is based on the commander's air defense priorities. These are developed with the assistance of the ADA officer. These priorities change during the course of an operation. At task force level, priorities are based upon an analysis of criticality to mission accomplishment, vulnerability, and threat. ADA elements supporting the task force can be kept under the centralized control of the platoon leader or attached to company teams.
 - (a) Use of Centralized Control. Whenever possible, centralized control is favored because it allows a better coordination of ADA support.
 - (b) Attachment of Stingers. Attaching Stingers is appropriate in mobile operations to get Stinger coverage well forward and allow the Stinger gunners to move under armor protection. In a situation where there is a considerable threat from artillery, decentralized Stinger employment should be considered. A technique is to have the stinger gunner ride on the tank company's fire support vehicle (FSV) or on the mechanized infantry company's FSV or XO's vehicle.

When employed under centralized control, the normal mission given to ADA elements is general support to the task force with priorities to a unit or tasks. ADA elements may protect critical areas as well as units. Examples are withdrawal and counterattack routes in the defense or choke points in the attack. When the area of operation is small or the task force rate of movement is sufficiently slow, the ADA element may provide area coverage for the entire task force. When given the mission of providing such support, the ADA leader and the

S3 coordinate the positioning of ADA elements with forward company teams or flank guards.

Based on the commander's priorities, the AD leader attempts to satisfy as many of the following employment guidelines as possible—

- Balanced fires.
- Weighted coverage against the most likely approach.
- Early engagement.
- Defense in depth.
- Mutual support.
- Overlapping fires.

(6) Support of Dismounted Infantry. Infiltrating dismounted infantry is especially vulnerable to attack helicopters if discovered in open terrain. Dismounted Stinger gunners should accompany dismounted infantry elements when vulnerability and criticality point to such employment.

(7) Resupply. ADA Class V immediate resupply should be carried in the task force combat trains. This can be on trucks provided from the ADA parent unit or on task force trucks.

(8) Fires Provided. Vulcans can provide excellent suppressive and anti-infantry fires. The ground range of the Vulcan is 2,200 meters (direct fire) to 4,500 meters (indirect fire). However, their use in such roles must be weighed against the degradation of their primary mission. Limited basic loads normally restrict such use to critical situations.

p. Engineers. The brigade commander normally allocates at least an engineer platoon to the task force and augments it with additional assets depending on the task force mission. Engineers are a combat multiplier. They provide skills and equipment necessary to assist the task force in accomplishing mobility, countermobility, and survivability tasks.

(1) Mobility. Mobility support seeks to improve movement of maneuver forces and critical supplies by reducing or eliminating obstacles, breaching minefields, and improving routes for maneuver and supply.

(2) Countermobility. Countermobility support involves obstacle construction to delay, canalize, disrupt, or kill the enemy. It also increases target acquisition time and, therefore, the effectiveness of direct and indirect fire weapons systems.

(3) Survivability. Survivability support refers to the construction of vehicle fighting positions and dismounted fighting positions with overhead protection to reduce the effectiveness of enemy weapons.

(4) Engineer Role. Combat engineers are primarily used for hand-emplacing and breaching obstacles, and augmenting the TF reconnaissance effort.

(5) Key Equipment Used. Certain key equipment is employed by the combat engineers.

- The engineer platoon has organic mine detectors, demolition kits, carpenter and pioneer tool kits, and one five-ton dump truck. The platoon also has two M9 armored combat earthmovers (ACES) with bulldozing capability and the mine clearing line charge (MICLIC). MICLIC is a trailer-mounted, rocket-projected explosive line charge which is towed within 50 feet of a minefield to clear a lane five to eight meters wide and 100 meters long.
- Additional engineer equipment that can be requested from the engineer company includes:
 - Small Emplacement Excavator (SEE). The SEE has a backhoe, bucket loader, and other attachments such as a handheld hydraulic rock drill, chain saw, and pavement breaker.
 - Armored Vehicle-Launched Bridge (AVLB). The AVLB is a tank chassis modified to transport, launch, and retrieve a 60-foot span, Class 60 bridge. The bridge is capable of carrying military load classification (MLC) 60 track loads across a 17-meter gap and MLC 70 track loads across a 15-meter gap.
- Combat Engineer Vehicle (CEV). The CEV is a basic M60A1 tank with a hydraulically operated dozer blade, a 165-mm turret-mounted demolition gun, a retractable boom, and a winch. The gun provides direct fire support that can be used in obstacle reduction or against bunkers or buildings.
- Ground-Emplaced Mine-Scattering System (GEMSS). The GEMSS is trailer-mounted. Its 800 on-board mines have a built-in self-destruct capability. The antitank mine has a magnetic influence fuze. The antitank mine is activated by tripwires. For most antitank minefields, three 60-meter-wide belts separated by 50 to 100 meters of unmined area are emplaced. A well-trained crew can emplace a 1,000-meter minefield in one hour.

q. Employment Considerations. Engineer assets may be controlled by the task force under the senior supporting engineer or may be attached to subordinate companies.

- (1) Operational Control. Even when under task force control, the senior supporting engineer must coordinate the execution of engineer tasks, as well as movement and positioning of engineer elements with the company team in whose area they are employed.
- (2) Support of Mobile Operations. During mobile operations, the platoon is employed under task force control and positioned to be able to move quickly to likely obstacles. When accomplishing breaching operations in enemy contact, engineers are attached to the company team designated breaching force for the duration of that mission. Engineers may be assigned to scouts or reconnaissance patrols to assist in terrain and obstacle reconnaissance.
- (3) Support of Task Force. While the engineers provide support to the task force, it provides support to the engineers. This support is in the form of security for engineer work parties, additional manpower, and CSS. The task force engineer with the S4 must

develop and coordinate a plan with the supporting engineer's parent organization that ensures the supply of Class III, IV, V, and IX to support both engineer support elements and the supplies needed to accomplish engineer tasks. Some engineer equipment, such as bulldozers, receives high maintenance priority in the defense. Engineer elements frequently shift from supporting one company to another. Companies are given priority of equipment use for a specified period or for the construction of a specified number of fighting positions. The gaining company is responsible for locating the operator and guiding him to the new location.

(4) Offense. In the offense, engineers assist the task force's maneuver over existing terrain and obstacles. The engineers assist in—

- Crossing gaps.
- Bridging rivers.
- Breaching or constructing bypasses around minefields, fortified positions, and other obstacles.
- Emplacing minefields on exposed flanks.
- Preparing positions for overwatch.
- Constructing and maintaining combat roads and trailers.

(5) Defense. The engineer role in the defense is to use the terrain to enhance the mobility and survivability of the task force while simultaneously impairing the mobility of the enemy. These actions allow the task force to shape the battlefield to better target the enemy and to employ its forces to fight and defeat a numerically larger force. In the defense, engineers are a critical asset. The commander must decide whether engineers are to build obstacles, prepare protective positions, or cut routes between battle positions. It is essential that tasks for special equipment such as bulldozers and bucketloaders be prioritized. Engineers must begin their work for the task force as soon as the defensive mission is received.

r. Military Intelligence. In order for the task force commander to make the most efficient use of his combat power, he must have information concerning enemy dispositions and probable courses of action. The primary means to obtain information in the task force area are subordinate maneuver companies, patrols, scouts, OPs, and FISTs. The task force S2 is responsible for coordination, information collection, and dissemination by planning use of task force reconnaissance and surveillance (R&S) resources. To fill the commander's intelligence requirements, he also requests support from higher headquarters:

- Human intelligence [HUMINT].
- Signal intelligence [SIGINT], including electronic intelligence [ELINT].
- Overhead photography.

Additionally, immediate requests for air coverage (Army and/or Air Force) may be requested via S3 Air's or TACP's communications channels. Other timely sources of intelligence information include forward and adjacent ground maneuver and aviation units and the artillery nets monitored by the FSE.

s. Interrogation Team. Interrogation teams are normally GS to the division, or DS to the brigade. If an interrogation team is placed in direct support of a task force for a specific mission and time, the commander positions it near the prisoner of war (PW) collection point in the combat trains.

t. Ground Surveillance Radar (GSR). This subparagraph discusses the capabilities, operational control, advantages and disadvantages, employment, and missions of GSR as well as the roles of radar teams and battalion, the battalion's relationship with GSR, and GSR support of offensive operations and other types of operations.

(1) Capabilities. GSR provides a highly mobile, near all-weather, 24-hour capability (night and poor daylight visibility) for battlefield surveillance. One or two GSR teams may be attached to a task force.

(2) Operational Control. As a rule, only GSR teams are provided to the task force. Teams are attached to the task force and employed by the battalion S2. Combat information collected by each team is passed to the battalion S2, who analyzes and disseminates it to the commander, S3, FSE, and subordinate units within the task force.

GSR equipment can be either vehicle-mounted or ground-mounted, and it complements other combat surveillance and target acquisition means in the battalion. Its employment is coordinated with the employment of patrols and observation posts, and with infrared and other sensory devices.

(3) Advantages. The primary advantage of radar is its ability to detect objects and provide accurate target locations when other surveillance means cannot. Radar is used primarily for operations during limited visibility (darkness, haze, fog, or smoke). Radar can penetrate light camouflage, smoke, haze, light rain, light snow, darkness, and light foliage. Heavy rain or snow restricts radar detection capabilities. However, a welltrained operator can minimize these effects. Radar is limited to line-of-sight.

(4) Disadvantages. Ground surveillance radar is ineffective against air targets unless the air target is flying close to the ground, because it is designed to detect only moving targets in the presence of a background. The radar is vulnerable to direction finding and jamming by enemy electronic combat and other deception means.

(5) Employment. Ground surveillance radar may be employed in all types of tactical operations.

(6) Missions. The two types of surveillance missions employed by radar personnel are search and monitor. The radar section is capable of performing a variety of tasks, including—

- Searching avenues of approach, possible enemy positions to report location, size composition, and nature of enemy activity.
- Monitoring point targets and reporting movement of targets through the point.

- Monitoring and searching final protective fire areas or barrage locations to permit timely firing.
- Extending the observation capabilities of patrols.
- Assisting the visual observation of units during daylight by detecting obscured (hazy) targets at long ranges.
- Assisting in the movement control of units during limited visibility operations.
- Increasing the effectiveness of fire support.
- Determining the rate of movement of a target.

(7) Radar Teams' Roles. In order for radar teams to provide good coverage, they must understand the mission, scheme of maneuver of the supported unit, and the most likely targets expected in the area of operations. Teams must be assigned a specific sector of surveillance, the desired degree of overlapping coverage, and frequency of coverage. To prevent detection by enemy direction finding equipment and enemy electronic countermeasures, operators turn on equipment only when needed.

(8) Battalion Role and Relationship with GSR. The battalion S2 advises the commander on where and how ground surveillance radar can best be employed to support the scheme of maneuver. Once this has been determined, the S2 assigns areas and methods of search and locations when GSR is retained in support of the battalion. Each team reports information to the supported unit or S2. Additionally, the S2 ensures that GSR positioning and coverages are integrated with other reconnaissance and surveillance means (patrols, scouts, OPs, TOW sights, NVDs) to ensure full coverage of the task force area of operations and interest.

The S2 directs the general positioning of the radars. The exact location is selected by the section leader or senior operator and is reported after the radars are in place. Forward slopes of radar sites must be covered by other observation means, because the slopes are dead space to the radar. GSR teams displace only on order of the GSR section leader or supported unit commander.

When time permits, alternative and supplementary positions are selected and prepared. Radar surveillance cards are prepared by the senior radar operator, who gives a copy to the battalion S2.

Radar should be kept as far forward as the tactical situation and terrain permit. Displacement should not be delayed arbitrarily until the radar teams can no longer provide effective support. Timely displacement enables forward units to maintain fire on withdrawing enemy units or to detect enemy activity indicating a counterattack. When feasible, teams displace by bounds.

(9) Support of Offensive Operations. Highly mobile, fast-moving offensive operations may preclude the continuous and effective use of radar. However, many of the possible uses are discussed below.

- (a) Movement to Contact. During the movement to contact, radar may be employed with reconnaissance and security elements on an exposed flank or to provide additional observation and security. To provide continuous flank surveillance, it may be necessary to employ radars in pairs and move them by bounds.
- (b) Penetration. Radar may be employed profitably in a penetration by locating enemy defenses before the attack. This information is used by the commander to avoid enemy strengths and capitalize on enemy weaknesses. Radar teams may locate enemy activity to facilitate use of preparatory fire, and may survey enemy positions to establish whether there is any reinforcement, shifting, or withdrawal of enemy units just before the attack.
- Once enemy contact has been established, radar may be used to provide surveillance forward of the line of contact or on an exposed flank. It may be positioned to provide surveillance over critical areas on avenues of approach during the attack.
 - During limited visibility, radar may be employed to vector or guide friendly attacking elements. It may be used in tracing the movement of forward friendly units to establish and confirm their specific location at any given time and to coordinate supporting fire with the advance of friendly elements.
- (c) Envelopment. In the envelopment, radar may be able to detect large gaps or assailable flanks. It may be possible to employ the radar with security elements of the enveloping force to provide early warning of enemy activity.
- (d) Consolidation and Reorganization. On order, radar teams displace to positions previously selected by a visual or map reconnaissance. During the consolidation and reorganization, primary emphasis is on immediately placing the equipment in operation. Thereafter, positions are improved and equipment is dug in and camouflaged as the situation permits. Since the radar teams on the objective survey the area beyond the objective, they must be informed of friendly patrols and other elements sent forward to maintain contact with the enemy.
- (e) Exploitation or Pursuit. In the exploitation or pursuit, radar teams are employed essentially as they are in the movement to contact. Additionally, radar teams attached to an enveloping force may be sited to locate withdrawing enemy elements or to assist in identifying friendly units during linkups.
- (f) River Crossing Operations. Radars are used in a river crossing as in normal offensive operations. When smoke is used by friendly forces engaged in a river crossing, radar may be used to detect enemy troop activity on the far bank including withdrawal, reinforcement, or shifting of units.

(g) Infiltration. When gaps in enemy defenses have been located, attacking elements may infiltrate through the enemy position. Radar teams may be employed effectively in conjunction with infiltration by surveying infiltrating lanes for enemy activity and determining the progress of infiltrating units. Short-range radar teams may be employed with infiltrating units in the enemy rear area. Infiltrating elements may use a radar team to enable them to locate enemy activity and avoid discovery. However, radar emissions may compromise the location of friendly units. The determination of whether radar teams should be employed by an infiltrating element depends on the urgency of obtaining information of the enemy in the area, as opposed to the need for avoiding discovery. If radar is employed with infiltrating elements, it may also be used to assist linkup with attacking forces.

(10) Other Types of Operations. GSR is used in both the covering force area and the main battle area. GSR assets are placed in general support of the task force to screen avenues of approach and gaps between company teams.

PART B - BATTLEFIELD OPERATING SYSTEMS

Task force functions are grouped into seven battlefield operating systems that must be integrated to support the commander's intent. The functioning of each system requires the coordinated efforts of all elements of the task force. The commander and staff integrate these systems into a combined arms force tailored to the situation.

The operating systems for the battlefield operating systems are:

- Command and control.
- Maneuver.
- Fire support.
- Intelligence.
- Air defense.
- Mobility, countermobility, and survivability.
- Combat service support.

1. Command and Control. The commander, the task force, and the S3 provide command and control.
 - a. Commander. The commander fights from a forward location where he can best see, hear, and influence the battle. He issues the orders necessary to control his subordinate units. His subordinate commanders and his soldiers must be aware of his presence on the battlefield.
 - b. Task Force. The task force uses standard military terminology, symbology, and reports and orders formats to distribute information and instructions. Face-to-face coordination is the most reliable of all means of communication. Copies of orders and instructions are limited and are generally in the form of operations overlays with superimposed execution matrixes. Wire is used as the preferred means of communications between elements that are in position for more

than a few hours. Radio communication is critical to fast-moving operations, but it has limitations and the enemy can disrupt it during critical times. Knowing the commander's intent and concept of the operations allows subordinates to act on their initiative and precludes an over dependence on radio communications.

- c. S3. The S3 is responsible for orders preparation and, through the task force signal officer, manages the electronic, wire, and messenger systems.

2. Maneuver.

The maneuver companies of the task force destroy enemy forces and seize and hold terrain. All other task force assets support the maneuver elements.

- a. Infantry. Historically, the infantry has been most effective during limited visibility, where observation and fields of fire were limited, and in close combat with the enemy. With the introduction of the improved TOW vehicle and Bradley fighting vehicle, the infantry has gained increased flexibility to destroy enemy armor at long range and to fight mounted, during limited visibility, while retaining the ability to fight dismounted as the situation requires.
- b. Tanks. Tanks are most effective where they can move fast and provide rapid, accurate direct fire at extended ranges. Thermal sights increase the capability of tanks to fight during limited visibility.
- c. Attack Helicopters. Attack helicopters are a maneuver asset that may operate with the battalion even though they are normally under OPCON of the brigade. They are highly mobile and can provide accurate long-range antitank fires during the defense, attack, exploitation, or pursuit. Attack helicopters can deny terrain to the enemy, but cannot seize and hold terrain, and they are not effective against a dug-in enemy.

3. Fire Support.

The task force commander plans and coordinates his fire support to suppress, neutralize, or destroy the enemy. The FSO assists the commander in planning and coordinating fire support. In addition to organic mortars, the commander receives fire support from field artillery units and close air support from the Air Force.

- a. Mortar Platoon. The mortar platoon provides organic indirect fires for the task force.
- b. Field Artillery. Field artillery provides a variety of indirect fires to the task force. It can deliver smoke, scatterable mines (FASCAM), cannon-launched guided projectiles (Copperhead), antipersonnel and antimateriel munitions, and, when they have been released, chemical and nuclear munitions.
- c. USAF Close Air Support. US Air Force close air support (CAS) provides additional fires. Each battalion task force is augmented with a TACP from the US Air Force.

4. Intelligence.

All units have a responsibility to report information about the enemy. However, the task force has only the scout platoon and infantry patrols dedicated to gather information. Ground surveillance radar (GSR)

may be attached from the divisional military intelligence battalion. Electronic warfare units operate in support of higher headquarters. The brigade provides intelligence to the task force that is beyond the task force's capability to collect.

5. Air Defense.

The battalion task force has no organic, dedicated air defense weapons. Normally, the minimum air defense provided to the battalion is a Stinger section or a Vulcan platoon. However, the task force often must rely solely on passive air defense measures such as concealment, camouflage, and dispersion coupled with the use of small-arms, machine guns, and even main tank guns as its means of defense.

Airspace command and control procedures are issued by corps and coordinated down to task force. These measures are used to synchronize the efforts of Air Force, Army aviation, indirect fire, and ADA. This allows the commander to simultaneously apply the combat power of all systems. The S3 air coordinates airspace command and control measures, and the S3 ensures that they complement the scheme of maneuver.

6. Mobility, Countermobility and Survivability.

Engineers and nuclear, biological, and chemical units provide mobility, countermobility, and survivability support.

- a. Engineers. All units can perform limited engineering tasks, such as digging two-man fighting positions and emplacing mines. Combat engineers provide additional mobility, countermobility, and survivability support to the task force. Engineers construct obstacles, emplace and clear minefields, prepare demolitions, improve roads, provide bridging, and dig fighting positions.

Depending on the engineer support available, the brigade commander normally places at least an engineer platoon, and usually an engineer company, in support of the task force. The engineer unit leader advises the commander on the employment of his unit. The S3 ensures the obstacle plan supports the scheme of maneuver.

- b. Nuclear, Biological, and Chemical. Units must be able to operate under NBC conditions to survive and accomplish their missions. This requires that units apply and adhere to the NBC defense fundamentals—contamination avoidance, NBC protection, NBC decontamination. The task force has decontaminating apparatuses which provide it a hasty decontamination capability. Additional support may be available from the division's chemical company that normally provides each maneuver brigade a decontamination platoon in direct support.

7. Combat Service Support.

This paragraph—

- Discusses CSS functions and organization.
- Provides an overview of CSS support.
- Lists the categories of CSS support and CSS function areas.
- Describes CSS support of night operations.
- Discusses transportation and task force trains in regard to CSS.

- Discusses LOGPAC operations.

a. CSS Functions and Organization. CSS is those actions taken to sustain the task force's ability to fight. The sustainment functions in combat are:

- Manning.
- Arming.
- Fueling.
- Fixing.
- Transporting.
- Protecting.

The S1, S4, HHC commander, maintenance officer, medical platoon leader, and support platoon leader, supervise CSS operations. The XO monitors CSS during all phase of operations.

The combat service support mission to sustain the combat power of the task force under dispersed and sometimes isolated conditions is even more critical to success on the battlefield than in the past. Combat service support is performed as far forward as the tactical situation permits. Weapons and systems are armed, fueled, fixed, and manned in forward positions to minimize the time it takes to return them to combat. The task force commander, primarily through his executive officer, S4, and S1, anticipates and plans requirements for combat service support and employs his service support assets to ensure accomplishment of the present and future missions. When possible, higher headquarters preconfigures and delivers materials before requests are generated ("push packages"), especially in the bulk resupply of Class III, IV, and V.

The burden of CSS is removed from the company team commander, as much as possible, and placed under control of the task force. The company team commander concentrates on fighting his unit to accomplish the tactical mission. The CSS responsibility at company team level is primarily to report and request requirements, and to ensure that CSS is properly executed once it arrives in the team's area.

b. Overview. The task force commander ensures that CSS is provided, not only for his organic and attached elements, but also for any OPCON or supporting units. The task force provides mission-essential CSS to a supporting unit. The S4 coordinates other CSS for the supporting unit, and verifies who is to provide this CSS and how it is to be requested. When a large attachment joins the task force, the attachment should bring an appropriate slice of CSS assets from its parent unit. These assets are controlled by the task force S4. The attached unit leader must coordinate with the task force S1 and furnish him with a copy of his unit battle roster. Thereafter, the attached unit submits reports and requests resupply according to the task force SOP.

The task force combat trains CP is the focal point of combat service support for the unit. The combat trains CP, under the supervision of the S4, anticipates, requests, coordinates, and supervises execution of combat service support.

c. Categories. The three categories of CSS are logistics support, personnel service support, and health services support.

The four functional areas of task force logistics are—

- Supply.
- Transportation.
- Maintenance.
- Field services, which includes graves registration, clothing exchange, bath, salvage, laundry, textile renovation, airdrop and airlift, and bakery.

d. Function Areas. Personnel service support includes a variety of functions that support a commander's ability to accomplish his mission and contribute to the welfare and morale of the soldier. Some major CSS personnel service functions are—

- Personnel and administration services, which includes strength and personnel accountability, replacement operations, casualty reporting, awards and decorations, and personnel management.
- Chaplain activities, which includes conduct of services, personal and religious counseling, and pastoral care.
- Legal services.
- Finance services.
- Public affairs.
- Postal services.
- Enemy prisoner of war (EPW) support.
- Health services support includes treatment and evacuation, medical supply support, and preventive medicine.

e. Sources of Support. The task force receives service support from various elements within and outside the task force.

- Within the Task Force. The XO, assisted by the command sergeant major, is responsible for coordinating all CSS in the task force. The S4 is responsible for the logistical support of the task force and for preparing paragraph 4 of the OPORD. He is assisted by the S4 section and the support platoon. The S1 is responsible for personnel service support within the battalion and he coordinates the actions of the medical platoon. To assist him in this effort, he has a personnel and administration center (PAC). Maintenance support is the responsibility of the battalion maintenance officer (BMO), who directs the activities of the maintenance platoon.
- Outside the Task Force. The principal source of external support to the task force is the forward support battalion (FSB). It is organized with a headquarters and headquarters detachment, a supply company, a maintenance company, and a medical company to provide support to a maneuver brigade. Additional support can be provided by the main support battalion (MSB) of the division support command (DISCOM).

f. Support of Night Operations. While all classes of supply are affected by night combat, Classes I and III present the most significant problems. Class I supply points and kitchens must operate around the clock. At night, vehicles tend to operate in lower gear or idle for longer periods than during day, thereby requiring more fuel and oil.

Other items of supply for night operations vary in demand depending on weather, terrain, and type of operation under consideration. For most tactical operations at night, units must expect an increased demand for—

- Engineer tape and stakes.
- Tarpaulin shelters.
- NVD batteries.
- Flashlights and filters (green, blue, red, and infrared).
- Luminous tape and paint.
- Red lens goggles.
- Replacement bulbs.
- Replacement NVDs.
- Chemical light sticks.

g. Task Force Trains. Trains may be centralized in one location (unit trains), or they may be echeloned in three or more locations (echeloned trains) as shown in [Figure 2-2](#). Unit trains are formed in assembly areas and during extended tactical marches. Forming unit trains with a centralized rear CP provides ease of coordination and control, and increases trains' security. Unit trains are controlled by the S4 with the assistance of the S1.

The task force CSS assets are normally echeloned into company combat trains, battalion combat trains, and battalion field trains. The battalion combat trains are organized to provide immediate critical support for the combat operation. Field trains are normally in the BSA and under the control of the HHC commander, who coordinates with the forward support battalion commander for security and positioning.

The most forward CSS elements are the company combat trains. A medical evacuation team (routinely attached to the company) and the company maintenance team tracked vehicles, when forward, form the company trains. The company first sergeant positions these elements, tasks the medical evacuation team, and establishes priority of work for the company maintenance team.

When operating in echeloned trains, the company supply sergeant usually operates from the field trains. Coordination between the company supply sergeant and the first sergeant is conducted through the combat trains CP to the HHC commander over the A/L net, and is supplemented by face-to-face coordination during LOGPAC operations.

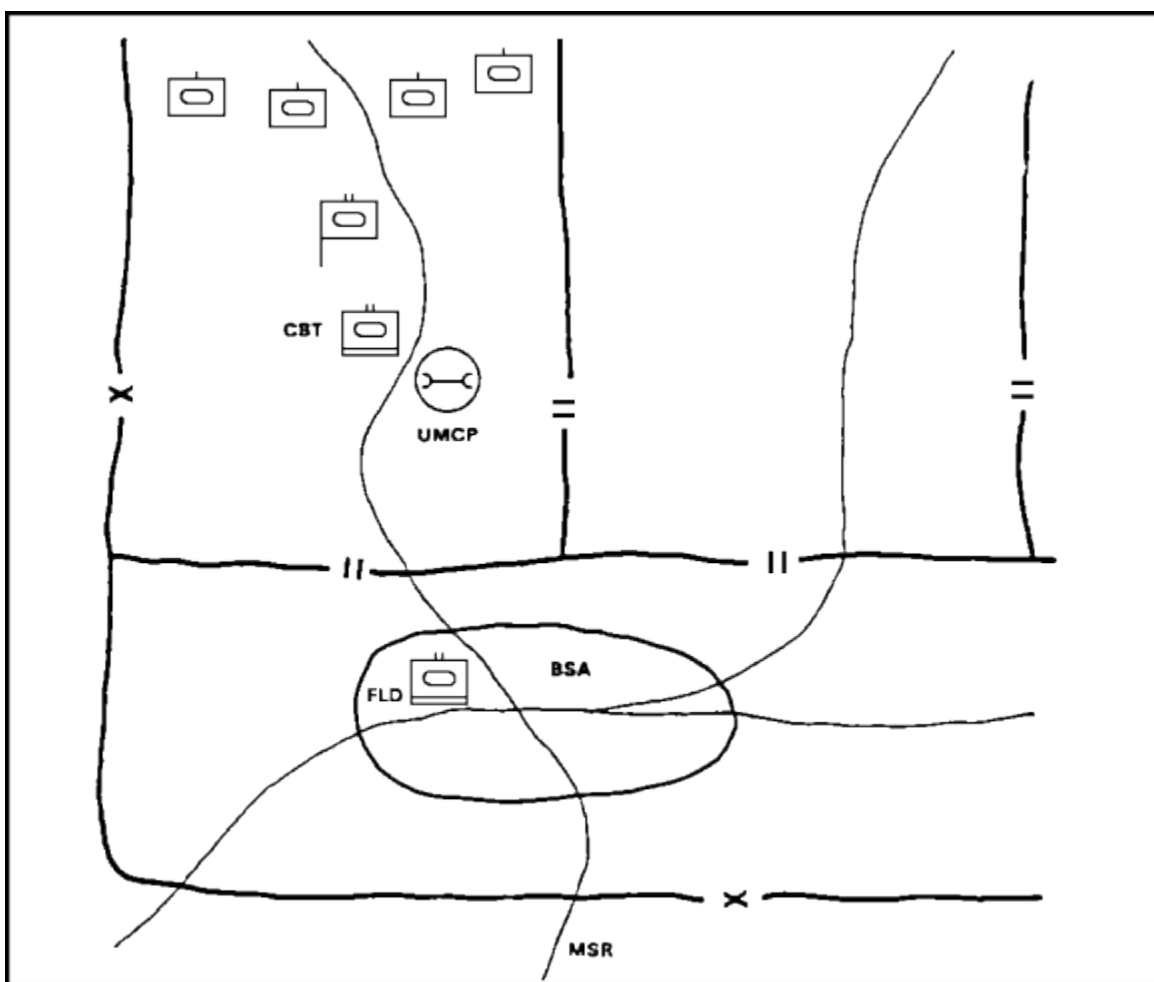


Figure 2-2. Echeloned trains

The battalion combat trains include the combat trains CP, medical platoon elements, decontamination assets, all uploaded Class III and V vehicle, elements of the communications platoon, and the nearby UMCP, with some supporting elements from the FSB. The combat trains are controlled by the S4, assisted by the S1. Elements of the combat trains operate on the A/L net and, when possible, are linked to the combat trains CP by landline.

The battalion combat trains should be close enough to the FLOT to be responsive to the forward units, but not within range of enemy direct fire. The combat trains can expect to move frequently to remain in supporting distance of the combat elements. The following factors govern the positioning of the combat trains.

- Communications are required between the combat trains CP, the main CP, the field trains CP, brigade rear CP, and forward units.
- Room for dispersion and cover and concealment from both air and ground observation are desired.
- The ground must support vehicle traffic.
- A suitable helicopter landing site should be nearby.
- Routes to logistical release points or to company positions must be available.

- Movement into and out of the area must not be restricted.

Built-up areas are good locations for trains. They provide cover and concealment for vehicles and shelter that enhances light discipline during maintenance. When built-up areas are used, battalion trains elements should occupy buildings near the edge of the area to preclude being trapped in the center.

The UMCP is established and supervised by the BMO to provide forward maintenance support to the task force. It is normally located near the battalion combat trains. The UMCP and battalion combat trains may combine to form a base cluster for defense.

The field trains are usually in the BSA and are controlled by the HHC commander. Generally, the field trains include the PAC, the mess sections, the company supply sections, the HHC command post, and the remainder of those elements of the maintenance and support platoons that are not forward.

The BSA is that portion of the brigade rear area occupied by the brigade rear CP, the FSB, and the task force field trains. CSS assets in the BSA include elements from the FSB, maneuver and combat support unit field trains, and selected corps (COSCOM) and division (DISCOM) resources, as required.

h. LOGPAC Operations. The most efficient resupply of forward task force units is accomplished by logistics packages (LOGPACs). LOGPACs are organized in the field trains by the company supply sergeant under the supervision of the HHC commander and the support platoon leader. LOGPACs are organized for each company team and separate element in the task force and moved forward at least daily for routine resupply. When possible, all LOGPACs are moved forward in a march unit, under the control of the support platoon leader. Special LOGPACs are organized and dispatched as required by the tactical situation and logistical demands.

The task force S4 must plan and coordinate LOGPAC operations to ensure they fully support the commander's tactical plans.

Task force SOP establishes the standard LOGPAC. Normally, a company team LOGPAC includes the following:

- Unit Supply Truck. This vehicle contains the Class I requirements based on the ration cycle—normally, one hot meal and two MREs per man. The supply truck tows a water trailer and carries some full water cans for direct exchange. In addition, the truck carries any Class II supplies requested by the unit, incoming mail, and other items required by the unit. The truck may also carry replacement personnel.
- POL Trucks. Bulk fuel and packaged POL products are on these vehicles.
- Ammunition Trucks. These vehicles contain a mix of ammunition for the weapons systems of the company team. Unit SOP establishes a standard load. Reports and projected demands may require changes to this standard load.
- Vehicles Carrying Additional Supplies and Replacements. These vehicles join the LOGPAC as coordinated by the support platoon leader and supply sergeant.

LOGPACs for platoon-sized attachments are usually loaded on a single truck. Water and Class III resupply is often accomplished by using five-gallon cans and pods mounted on trailers.

When the company LOGPAC has been formed, it is ready to move forward under the control of the supply sergeant. The support platoon leader normally organizes a convoy for movement of all company LOGPACs under his control. In emergencies, he dispatches unit LOGPACs individually. The convoy may contain additional vehicles, such as a maintenance vehicle with Class IX to move to the UMCP, or an additional ammunition or fuel vehicle for the combat trains. The LOGPACs move along the MSR to a logistics release point (LRP), where the unit first sergeant or a unit guide takes control of the company LOGPAC.

From the LRP, the company first sergeant or guide controls the LOGPAC and conducts resupply. The unit first sergeant informs his supply sergeant of requirements for the next LOGPAC. The supply sergeant collects outgoing mail, personnel, and equipment for movement to the rear. The LOGPAC then follows unit SOP and returns to the LRP or to the field trains.

LRP locations are determined by the S4, based on the tactical situation. They should be well forward and easily located. Normally, two to four LRPs are planned. LRPs, as well as the MSR, combat trains, and field trains locations, are included on the operations overlay, if possible. The combat trains CP notifies subordinates and the field trains CP, well in advance, which LRPs will be used. The LOGPAC convoy arrival time at the LRP and the length of time it remains are normally established by SOP. If the tactical situation dictates otherwise, the S4 must determine the time and notify units accordingly. LOGPACs may be scheduled to arrive shortly after arrival at a BP or, intermediate objective. M1 units may also require more frequent Class III resupply. Subordinates must ensure that the resupply vehicles are returned to the LRP as soon as possible so that the vehicles can return to the field trains and begin preparation for the next mission. Class III and V vehicles never sit empty. If the LOGPAC cannot be completed on schedule, the combat trains CP must be notified.

At least one senior representative from the combat trains (S4, S1, or senior NCO) should be present at the LRP while it is in effect. His purpose is to meet with the unit first sergeants and support platoon leader for coordination of logistical requirements, to ensure that the LOGPAC release and return takes place efficiently. A brief meeting is normally held immediately before the first sergeant picks up his LOGPAC. Coordination may include—

- Changes in logistical requirements reflecting any last-minute task organization.
- Reports on personnel, logistics, and maintenance from the first sergeants.
- First-hand updates on the tactical situation and logistical status.
- Delivery, receipt, and distribution of unit mail.

The company supply sergeant or support platoon leader moves the LOGPAC from the LRP back to the field trains. The supply sergeant and support platoon leader then begin organization of the next LOGPAC.

Resupply of the scout and mortar platoons, the main CP, combat trains, and attached support units must be planned and coordinated. The HHC first sergeant coordinates and supervises

resupply of these elements. The HHC first sergeant operates near the task force main CP when forward and at the field trains CP upon completion of daily resupply.

- The platoon sergeant of these elements or senior NCO at a facility must report his requirements to the HHC first sergeant or to the combat trains CP. The most desirable method of resupply is to form small LOGPACs for these elements, which the platoon sergeant picks up at the LRP in the same manner as a company first sergeant. Attachments larger than a platoon must come to the task force with sufficient CSS vehicles to carry their LOGPACS.
- In some cases, the HHC first sergeant delivers the LOGPAC to the main CP, combat trains, and scout and mortar platoons. Attachments can receive resupply at one of these locations or as previously coordinated.
- Another option is for attachments to be resupplied from a nearby company team LOGPAC. The S4 coordinates this resupply before the LOGPACs are dispatched.
- Resupply operations for the scout platoon pose several unique problems. Special procedures may be necessary to resupply the scout platoon, including:
 - Resupplying the platoon by having each track individually pull off line and move to a resupply site. (This method may be feasible when the platoon is performing security for a stationary force.)
 - Resupplying the platoon near the combat trains as the platoon repositions between missions.
 - Designating one Class III vehicle in the combat trains to fuel the platoon on short notice.

Units in direct support or under OPCON of the task force are responsible for the coordination of resupply of their elements operating forward with the task force, except as noted.

- The ADA battalion or battery commander coordinates for the task force to resupply ADA units in direct support with some classes of supply. This may be directed in higher headquarters SOPs and usually includes Class I, III, and V, and common item IX.
- The task force provides engineer materials (Classes IV and V) to supporting engineer units. Additionally, engineer units under OPCON of the task force receive Class I, III, V, and IX support to the maximum extent possible. This support is coordinated through or directed by brigade before the OPCON directive becomes effective.
- The parent unit S4 or company commander of the supporting element coordinates with the task force S4 or HHC commander on resupply of the forward elements.

Normally, the supporting units' resupply elements assemble in the BSA and move to the task force field trains area. The HHC commander then dispatches these resupply elements forward, along with the task force LOGPACS, to the LRP. At the LRP, the platoon sergeant of the forward supporting element takes control of the resupply element. These resupply elements maintain contact with the combat trains CP while forward in the task force area. If coordinated between the supporting parent unit and the

task force, the resupply of these forward elements is directly managed by the task force. The parent unit must provide the additional logistical assets necessary to supplement the task force's capabilities. No matter how support was coordinated, any element within the task force area of operation must either be under the task force commander's control or at least remain in contact with the task force combat trains CP, to avoid interfering with task force maneuver.

While the LOGPACs are the preferred methods of resupply, there are times when other methods of resupply are required.

- Resupply from the Combat Trains (Emergency Resupply). The combat trains has a limited amount of Class III and V for emergency resupply. The S4 coordinates emergency resupply from the combat trains and then refills or replaces the combat trains' assets.
- Prestocking. Prestocking is the placing and concealing of supplies on the battlefield. This is normally done during defensive operations when supplies are placed in subsequent battle positions.
- Mobile Prepositioning. This is similar to prestocking except that the supplies remain on the truck, which is positioned forward on the battlefield.

PART C - SERVICES SUPPORT

1. Maintenance.

Maintenance involves inspecting, testing, servicing, repairing, requisitioning, and recovering. Repair and recovery are completed as far forward as possible, at the lowest capable echelon. When equipment cannot be repaired on site, it is moved only as far as necessary for repair. When all maintenance requirements of the task force cannot be met, the XO determines maintenance support priorities for subordinate units based on operational requirements of the task force and on recommendations of the S4 and BMO.

- a. Maintenance Terms. The following are explanations of some common maintenance terms.
 - (1) Maintenance Support Team (MST). The MST is a mobile team from the FSB maintenance company organized and equipped to provide forward support.
 - (2) Unit Maintenance Collection Point (UMCP). The UMCP is a facility operated by the battalion maintenance platoon. It is the first point to which task force maintenance teams recover equipment and at which some direct support maintenance is performed.
 - (3) Controlled Exchange. This is the removal of serviceable repair parts and components from unserviceable but reparable vehicles (end items) to get a like vehicle (end item) operational.
 - (4) Cannibalization. This is the removal of serviceable and unserviceable parts and components from damaged equipment. Cannibalization is aggressively used to keep the maximum number of combat systems in the battle.

(5) Battlefield Damage Assessment and Repair. BDAR is the act of inspecting battle damage to determine its extent, classifying the type of repairs required and determining the maintenance activity best suited to accomplish the repair. Battlefield damage repair involves the immediate repair of equipment by field-expedient methods.

(6) Company Maintenance Team. This is a team from the maintenance platoon that is organized and equipped by modified table of organization and equipment (MTOE) to provide forward unit maintenance support. It operates with the company and from the UMCP. These teams are tailored by the BMO to provide support according to the mix of weapons systems within a company team. Normally, the team deploys a recovery vehicle and a maintenance track forward with the company while the remainder of the team remains in the UMCP.

b. Categories. The Army maintenance system consists of three levels of maintenance: unit, intermediate, and depot.

(1) Unit. Unit maintenance consists of preventive maintenance tasks performed by the operator and crew and those performed by unit mechanics. Unit mechanics isolate faults with test equipment, make visual inspection, make minor adjustments, and repair end items by exchanging faulty modules and components. These actions can be performed on site or in the UMCP. Unit mechanics also perform recovery tasks.

(2) Intermediate. Intermediate maintenance can be either direct support or general support.

(a) Direct Support. DS mechanics diagnose and isolate equipment or module failure, adjust and align modules and components, and repair defective end items. Maintenance support teams (MSTs), from the FSB operate from the UMCP. If equipment cannot be repaired in the UMCP because of time constraints, workload, or the tactical situation, it is recovered to the FSB maintenance company in the BSA for repair.

(b) General Support. GS maintenance involves repair of modules and components by replacing internal pieces or parts, and repair of end items involving time-consuming tasks. GS is provided by division and corps in support of the maintenance system.

(c) Depot. Depot maintenance personnel—

- Rebuild end items, modules, components, and assemblies.
- Perform cyclic overhaul.
- Perform inspections.
- Complete modifications requiring extensive disassembly or elaborate testing.

c. Maintenance Forward. Combat power is maximized when disabled equipment is repaired as far forward and as quickly as possible. The BMO, in coordination with the XO, directs the

maintenance effort for the task force by using established time guidelines and by coordinating maintenance actions.

Battle damage assessment and diagnosis indicate repair time. An item is repaired on site or recovered directly to the appropriate maintenance echelon in the appropriate support area based on—

- Tactical situation.
- Echelon of work required.
- Availability of required repair parts.
- Current workload in each area.
- Maintenance time guidelines.

Maintenance time guidelines establish the maximum time that unserviceable equipment remains in various support areas. [Figure 2-3](#) lists typical maintenance time guidelines. These times are flexible and should not be considered restrictive.

d. Maintenance Concepts. The following discussion of battlefield maintenance concepts places the various maintenance echelons into proper perspective. The discussion illustrates how echelons overlap to provide continuous maintenance support to the maneuver units.

<u>Time for Repair (Hours)</u>	<u>Location</u>
Less than two	On site
Two to six (and can be towed until repaired)	UMCP
Six to 24 (or fewer than six if vehicle cannot be towed)	Field trains/FSB maintenance company (BSA)
24 to 36	DSA

Figure 2-3. Maintenance time guidelines

The BMO task-organizes the maintenance platoon based on his analysis of current and anticipated requirements. He is concerned with providing the appropriate support at each of three locations:

- Maneuver company.
- UMCP.
- Field trains.

Normally, the BMO positions CMT recovery vehicles and M113s with crews to support each company. This provides a quick-fix capability for those items that can be repaired in fewer than two hours and recovery capability for those items requiring extensive repairs. The remainder of the CMT operates from the UMCP under the control of the BMO. The entire company maintenance team may go forward when the situation permits to provide maximum support forward.

The UMCP normally is task-organized with the maintenance platoon headquarters (-), one PLL truck from the administration section, the remaining VTRs from the recovery section, track automotive and turret repair teams from the service section, the wheeled vehicle assets from the company maintenance teams, and the DS MST. The task organization of the UMCP is modified, based on the BMO's analysis of the maintenance requirements and the tactical situation. The UMCP cannot become a collection point for nonoperational vehicles to the extent that it cannot move with an hour's notice. Anything that cannot be repaired in the UMCP or that cannot be towed by UMCP assets is recovered to the field trains or directly to the FSB maintenance company in the BSA.

The remainder of the maintenance platoon is in the field trains under the control of the battalion motor sergeant.

The battalion maintenance platoon organizes to support crossattachment as well as pure battalion operations.

- To support this concept, the administration section configures four PLL trucks and trailers to carry the PLL needed to support one maneuver company each. These vehicles also transport enough packaged POL to support repair operations. One of the remaining PLL trucks and trailers is configured to carry the PLL associated with HHC tracked vehicles, and, in mechanized infantry only, antiarmor company. The remaining PLL truck and trailer is configured to carry the PLL for the battalion's wheeled vehicles. It operates from the field trains.
- Additionally, some high-demand, low-volume parts are carried on the company maintenance team's tracked vehicles. The selection of parts that are carried forward on the tracked vehicles, as well as the breakout of parts to be carried on each PLL truck and trailer, should be addressed in the battalion maintenance platoon SOP.
- Direct support maintenance element priorities are set by the BMO. Since the maintenance elements are equipped and trained to support the unit, taskorganizing direct support maintenance assets is not routinely done. PLL parts, special tools, and test sets are not easily split.

The CMT tracked vehicles are forward in the company trains. These vehicles carry the tool boxes, some unit-level technical manuals, and a limited number of special tools and repair parts. M1-M2 test equipment normally remains at UMCP because of its size. It may be sent forward as needed, based on the BMO's and CMT's assessments. The CMT usually repairs the damage on-site if the repair can be accomplished within 2 hours.

If a damaged vehicle cannot be repaired within two hours, it is recovered to the UMCP or the field trains. However, before a recovery vehicle is committed, other recovery means are attempted. The CMT recovers the vehicle only as far as a collection point, or the main supply route (MSR).

The damaged vehicles recovered to the UMCP are repaired by maintenance platoon elements or MSTs from the FSB maintenance company. When not involved in on-site repairs, the company

maintenance teams may also repair vehicles in the UMCP. This is especially true of work requiring diagnostic test equipment that cannot be taken into the combat positions.

Vehicles that cannot be repaired within six hours, or that would otherwise overload the capability of the UMCP, are recovered to the field trains or directly to the FSB maintenance company collection point for repair. This recovery may be accomplished by the company maintenance team vehicle, tracked, recovery (VTR); by the company maintenance team VTR to a collection point or MSR, then by a maintenance platoon VTR; or by a combination of VTR and heavy equipment transporters (HETs). The BMO coordinates and directs the method to be used. The use of HETs is the preferred method, but they are restricted by road requirements and availability. HETs are requested through the FSB maintenance company. Some crew members accompany the vehicle to the rear to assist mechanics in the repair of the vehicle and return it to the unit when repaired. They also man operational weapons systems on the vehicle to provide additional security to rear areas.

Communications-electronic equipment installed in the vehicle is evacuated with the vehicle. Crewmen not accompanying the vehicle remove personal equipment and any special equipment before the vehicle leaves the area.

The UMCP usually displaces with the other elements of the combat trains. During periods of frequent displacement, the BMO may direct that the UMCP displace by echelon. In this case, some assets of the maintenance platoon, including the BMO, complete repair on vehicles at the old UMCP before displacing forward to the new location. Maintenance platoon assets not involved in repairs move with the remainder of the combat trains and establish the forward UMCP.

During rapid forward moves, such as in the exploitation, the UMCP conducts only essential repairs and simple recovery. Other disabled vehicles are taken to collection point on an MSR and remain to be repaired or evacuated. Field trains and the maintenance company of the FSB displace forward to subsequent locations. The BMO coordinates the repair or evacuation with the battalion motor sergeant in the field trains.

In the field trains, remaining elements of the battalion maintenance platoon perform other tracked and wheeled vehicle maintenance and Class IX resupply. The battalion motor sergeant coordinates requirements with the HHC commander and with the maintenance company of the FSB. He also coordinates maintenance requirements with the parent headquarters of any attached or supporting elements working with the task force.

2. Field Services.

This paragraph describes field services provided to the task force.

- a. Graves Registration. Graves registration services are provided by the MSB supply and service company. Grave registration at task force level consists of three functions: collection, identification, and evacuation. Casualty feeder reports (DA Form 1156) and witness statements (DA Form 1155) are completed by the soldier who has knowledge of the casualty and sent to the field trains with the returning LOGPACS. Military equipment is collected and turned over to the

supply sergeant during LOGPAC operations. Remains are placed in a human remains pouch, along with personal effects, and evacuated with returning LOGPAC vehicles to the field trains. If necessary, companies evacuate remains to the MSR and report the location to the combat trains CP. A collection point may be established, if necessary, at the combat trains under the control of the S4. In any case, remains are evacuated as rapidly as possible to the brigade collection point in the BSA.

- b. Clothing Exchange and Bath. Clothing exchange and bath (CEB) services are provided by the MSB supply and service company. Clothing exchange (or gratuitous issue) and bath service is requested from the MSB through the brigade S4. A request for CEB service must specify the location of the unit making the request, the desired time for service, and the range of clothing sizes for unit members. The requesting unit must be prepared to furnish soldiers to help set up the CEB operation. Normally, there is one CEB point per BSA.
- c. Salvage. Salvage services are provided by FSB supply company. A salvage collection point is established in the BSA by the FSB supply company. It receives serviceable, unserviceable (repairable), discarded, abandoned, and captured supplies and equipment. The salvage point does not accept COMSEC or medical supplies, toxic agents, radioactive materials, contaminated equipment, aircraft, ammunition, and explosives.
- d. Laundry and Renovation. Laundry and renovation services are provided by corps CSS (COSCOM) when the tactical situation permits. TMs service is coordinated through the brigade S4.
- e. Airdrop/Airlift. Airdrop/airlift support is provided by corps and division aviation brigade assets. The S4 requests airdrop/airlift support through the brigade S4 and ensures that a drop or landing zone is prepared and marked.

3. Personnel Service Support.

Personnel and administrative (P&A) services are the responsibility of the task force S1. They include the following.

- a. Strength Accounting. Company teams and attached units submit a personnel daily summary report to the S1 in the combat trains CP. The S1 forwards a task force consolidated report through brigade S1 to the division G1/AG main. The PAC in the field trains is given an information copy. These reports are the basis for individual replacements and Class I resupply. Accurate strength reports also provide the commander and staff with information to plan operations. Daily reports are included in the task force SOP.
- b. Casualty Reporting. The S1 ensures that both strength and casualty reporting occur in a timely and accurate manner. Initial reports are usually verbal. Written reporting occurs as soon as possible after the event. It is initiated by the squad leader, tank commander, or any individual having knowledge of the incident. The casualty feeder report (DA Form 1156) is carried by all small unit leaders to report battle casualties and nonbattle casualties.

It provides initial information for notifying next of kin and for payment of benefits. When a soldier is reported missing or missing in action or when the remains are not under US control, a witness statement (DA Form 1155) accompanies the casualty feeder report. The first sergeant collects and forwards reports to the combat trains CP. The S1 cross-checks the reports, requests any needed clarification, adjusts unit strength reports, and forwards the reports through the PAC to the brigade S4.

c. Replacement Operations. Replacement flow is monitored by the PAC in the field trains. The HHC commander establishes a replacement receiving point (RRP) in the field trains and notifies the brigade S1 of its location. All replacements or hospital returnees are brought to the RRP for initial processing. The division AG is normally responsible for delivering replacements to the RRP. Replacements are briefed on SOPs and equipped with weapons and field gear before departing the field trains. They move forward to their unit with the LOGPAC.

d. Other Administrative Services. During lulls in the battle, the S1 and PAC complete all other P&A actions necessary. If possible, these are accomplished by forming personnel contact teams that move forward to company locations. Special consideration is given to timely processing of awards and decorations.

4. Chaplain Activities.

Chaplain activities are provided by the unit ministry team (one chaplain and one chaplain assistant) operating from the combat trains. The unit ministry team is dedicated to serving the spiritual needs of soldiers. Chaplain activities include essential subfunctions of providing—

- Worship opportunities.
- Administration of sacraments, rites, and ordinances.
- Pastoral care and counseling.
- Advising the commander and staff on matters of religion, morals, and morale.
- Ministry in support of battle fatigue.
- Religious support enhancing soldier morale and unit cohesion.

Chaplains also routinely visit unit soldiers in nearby hospitals.

5. Legal Services

Legal service support is coordinated by the S1 section. It is provided to the task force on a GS basis by the staff judge advocate of the division. It includes—

- Legal advice to commanders on all matters involving military law, domestic law, foreign law, international law, and administrative proceedings.
- Representation to accused and suspects in military justice matters and to personnel pending adverse military personnel action.
- Advice to soldiers on complaints, reports of survey, and the right to silence in administrative proceedings.
- Legal assistance to soldiers on personal civil legal matters.

6. Finance Services.

Finance support to the task force is usually provided by mobile pay teams (MPTs) from the corps' area finance support unit. During low-intensity operations, the MPTs make combat payments to soldiers in amounts established by the theater army commander, or in lesser amounts if the soldier so desires. The brigade commander may establish an amount less than the maximum for personnel of the brigade, based on the tactical situation and needs of the soldier. When and where the soldier is paid is determined by the commander, and coordinated by the S1.

7. Public Affairs.

Information (public affairs) support for soldiers and commanders in wartime is provided by the division public affairs office. Public affairs officers (PAOs) provide public affairs advice and service concerning all matters of soldier and media interest.

8. Postal Services.

A postal element, assigned to the Corps DS postal company, receives and separates mail by battalion, then turns it over to the brigade S1. The battalion mail clerk receives and sorts the mail by task organization and distributes it to the unit supply sergeant (assistant mail clerk), who delivers it to the first sergeant or to the soldier himself (accountable mail) during LOGPAC resupply.

9. Enemy Prisoners of War Support.

The S1 plans and coordinates EPW operations, collection points, and evacuation procedures. Prisoners of war are evacuated from the task force area as rapidly as possible. The capturing company is responsible for guarding prisoners until relieved by proper authority, recovering weapons and equipment, removing documents with intelligence value, and reporting to the main and combat trains CPs.

Prisoners may be evacuated to the vicinity of the combat trains or UMCP for processing and initial interrogation. Crews of vehicles undergoing repair or unoccupied mechanics are used as guards.

Prisoners are then moved to the brigade EPW collection point on returning LOGPAC vehicles or by transportation coordinated by the S4. As necessary, the S2 reviews and reports any documents or information of immediate value. The S4 coordinates evacuation of large amounts of enemy equipment. Wounded prisoners are treated through normal medical channels but kept separated from US and allied patients.

10. Health Services Support.

a. Planning. Task force health services support is planned by the medical platoon leader or battalion surgeon and S1. It is provided by the battalion medical platoon. Backup support is provided by the FSB medical company. To support task force operations, the medical platoon leader or battalion surgeon and medical operations officer must understand the scheme of maneuver as well as the support plan of the FSB medical company.

b. Organization. The medical platoon is organized with a platoon headquarters, a treatment squad, an ambulance section, and a combat medic section. This organization facilitates quick

evacuation of wounded soldiers so that they may be treated by trained medical personnel within 30 minutes of the time they are wounded.

- The platoon headquarters and the medical treatment squad can form one or two battalion aid stations (BASs) capable of operating from or forward of the combat trains.
- The ambulance section operates from company trains and from the BAS. Tracked ambulances and crews habitually work with the same company, as to medics from the combat medic section. The senior combat medic is in charge of this company aid/evacuation team.

c. Functions. Health services support provide the following functions.

(1) Maneuver Company Aid/Evacuation Team. The maneuver company aid and evacuation team—

- Provides emergency medical treatment and protection for the sick and wounded.
- Assists combat vehicle crews in evacuating injured crewmen from their vehicles.
- Provides medical evacuation.
- Initiates a field medical card for the sick and wounded, and, time permitting, completes this card on deceased personnel.
- Screens, evaluates, and treats patients suffering from minor illnesses and injuries; returns patients requiring no further attention to duty; notifies first sergeant of those requiring evacuation to the BAS.
- Remains abreast of the tactical situation, and complies with the instructions of the unit first sergeant.
- Ensures that the company commander and the battalion surgeon are informed of the status of patients seen and the overall status of health and welfare of the company.
- Trains unit personnel to enable them to perform self aid and buddy aid.
- Provides trained combat lifesavers with medical supplies as required.

(2) Battalion Aid Station. This facility has medically trained personnel to stabilize patients for further evacuation, to perform immediate lifesaving or limb-saving techniques, and to treat minor wounds or illnesses and return the latter patients to duty. The BAS can operate two treatment teams for a limited time if the tactical situation requires it. Other functions of the BAS include—

- Receiving and recording patients.
- Notifying the S1 of all patients processed and disposition of casualties as directed by SOP.
- Preparing field medical records, and verifying information on field medical cards.
- Requesting and monitoring aeromedical evacuation.
- Monitoring personnel, when necessary, for radiological contamination before medical treatment.
- Decontaminating and treating small numbers of chemical casualties.

- Monitoring the activities of aid/evacuation teams.

d. Medical Evacuation. Medical evacuation is the responsibility of the next higher level of medical support. For example, the FSB medical company evacuates patients from the BAS, or coordinates medical evacuation from corps resources. Patients are evacuated no further to the rear than their condition requires, and they are returned to duty as soon as possible.

- Medical evacuation within the task force is routinely done by the medical platoon ambulance section. Medical evacuation outside the task force may be done by ground or air evacuation.
- Aeromedical evacuation out of the task force sector is used as much as possible. Ground ambulances are used only for those patients who cannot be evacuated by air. The specific mode of evacuation is determined by the patient's condition, the availability of aircraft, and the tactical situation. Normally, the physician or physician's assistant treating the patient makes this determination.
- If necessary, the platoon leader coordinates with the S4 for additional transportation and ensures that temporary ambulances have medically trained personnel and medical supplies necessary for casualty movement. Returning supply vehicles can be used for transportation.

e. Medical Supply and Property Exchange. The medical platoon maintains a two-day stockage of medical supplies. To prevent unnecessary depletion of blankets, litters, splints, and the like, the receiving medical facility exchanges like property with the transferring agency.

f. Preventive Measures. Experience in World War II, Korea, and Vietnam indicates that the majority of hospital admissions were for disease and nonbattle injury. Commanders can reduce disease and nonbattle injury by emphasizing preventive medicine, safety, and personal hygiene.

PART D - COMMAND AND CONTROL

1. Command and Control.

Command and control is the process through which the activities of the task force are planned, directed, coordinated, and controlled to accomplish the mission. This process encompasses personnel, equipment, communications, facilities, and procedures necessary to gather and analyze information, to plan, to issue instructions, and to supervise the execution of operations.

- a. Responsibilities. The commander is responsible for command and control of organic, assigned, attached, and supporting forces, and for their synchronization into his operation.

Effective leadership is foremost among the elements of combat power that decide victory. The leader must have a reliable, secure, fast, and durable command and control system. This system must communicate orders, coordinate support, and provide direction to the task force in spite of enemy interference and the loss of command facilities and key individuals.

The command and control system must be faster and more effective than the enemy's system. This allows the commander to receive and process information and to make and execute

decisions faster than the enemy. The overriding goal of this system is to implement the commander's will in pursuit of the objective.

b. Organization. The battalion commander determines the command and control organization that best supports his method of operations. He determines the succession of command, and assigns responsibilities. The command and control organization is established by task force SOP. The typical task force command and control organization is shown in [Figure 2-4](#).

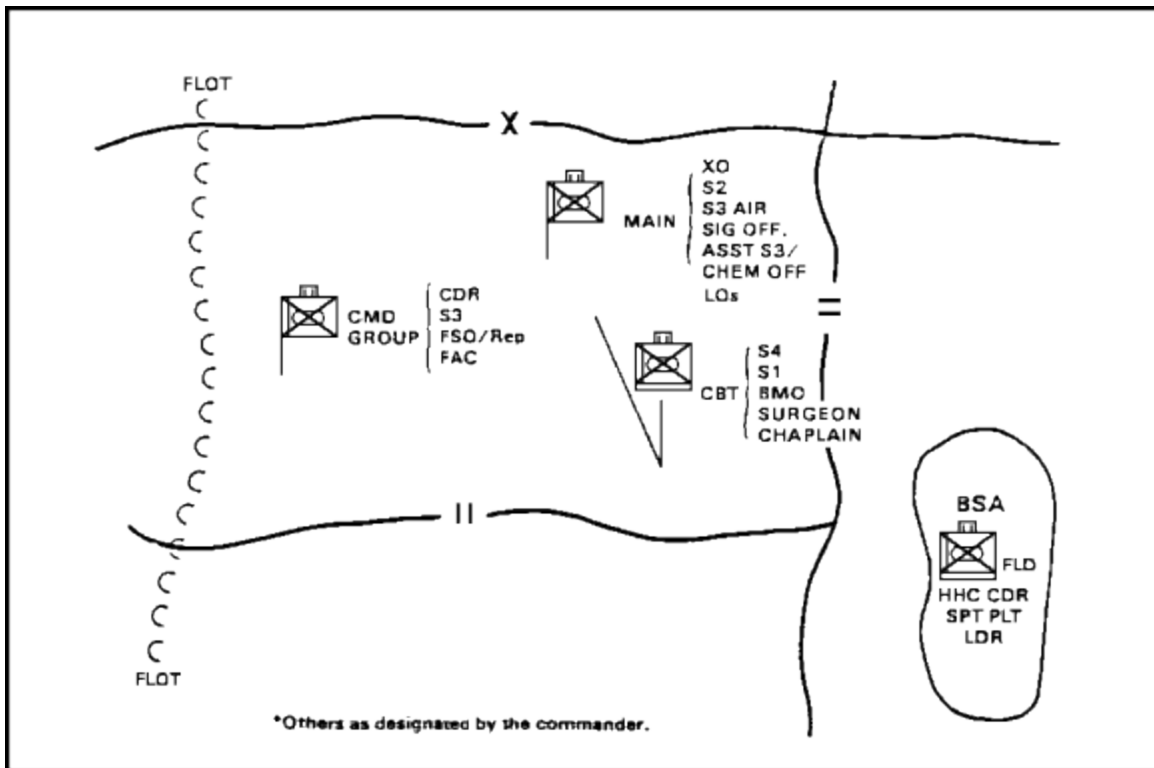


Figure 2-4. Command and control organization on the battlefield

c. Responsibilities of Key Personnel. The battalion staff is composed of personal, coordinating, and special staffs. The responsibilities of the command and control organization are outlined below. The commander may modify these responsibilities based on the situation and individual capabilities.

- (1) Battalion Task Force Commander. The commander commands all elements of the task force. He provides his subordinates with missions, taskings, and a clear statement of his intent. The commander allows subordinates freedom of action in implementing his orders.
- (2) Executive Officer. The XO is the principal assistant to the battalion commander. He is the battalion "chief of staff" and he is second in command. He is the principal integrator of CSS in support of maneuver. During the commander's absence, he represents the commander and directs action in accordance with established command policy and guidance. During the battle, he is normally in the main command post where he—

- Monitors the battle.
- Reports to higher headquarters.
- Keeps abreast of the situation at higher headquarters and units on the flanks.
- Integrates CS and CSS into the overall plan.
- Plans for future operations.

He is free to move to any point in the area of operations to accomplish his duties and responsibilities.

(3) Command Sergeant Major. The command sergeant major (CSM) is on the commander's personal staff and is his primary advisor concerning enlisted soldiers. He must know the administrative, logistical, and operational functions of the battalion. Since he is the most experienced enlisted soldier in the battalion, his attention is focused on soldier and soldier support matters. The CSM may act as the commander's troubleshooter in supervising critical aspects of an operation. The CSM may also perform critical liaison, coordinate passage of lines, lead advance or quartering parties, supervise at key breach/ford sites, monitor key defensive preparations, assist in the CSS effort, and monitor unit morale.

(4) Coordinating Staff. The coordinating staff officers are the principal staff assistants to the commander.

(a) S1 (Adjutant). The S1 is a principal staff officer with responsibility for exercising staff functions and coordination for personnel service support. Personnel service support encompasses the areas of personnel service, administrative services, health service support, finance support, postal services, chaplain activities, legal service support, morale, welfare support activities, and public affairs. The S1 is the assistant officer in charge of the combat trains CP, usually acting as a shift leader.

(b) S2 (Intelligence Officer). The S2 is responsible for combat intelligence. He organizes for continuous combat operations in coordination with the S3. The S2 coordinates input from the other staff officers. During operations, he updates the IPB and prepares and monitors reconnaissance and surveillance plans in conjunction with the S3. He provides staff supervision over supporting intelligence organizations and requests additional support from brigade to support the commander's intelligence requirements. He normally performs his duties in the main CP.

(c) S3 (Operations and Training Officer). The S3 is responsible for planning, organizing the force, and coordinating combat operations of the battalion and attached/OPCON units, and for coordinating with combat support units. He coordinates with the S2, FSO, and other combat support planners in preparing the task force order. He is responsible for integrating combat support (engineer operations, ADA, indirect fires, CAS, EW, Army aviation, and C3CM into task

force operations. He assists the commander in fighting the ongoing battle. The S3 operates forward with the commander.

(d) S4 (Logistics Officer). The S4 is responsible for all battalion logistical activities. He supervises all organic and nonorganic logistical elements supporting the formulation of logistical policy. He plans, coordinates, and supervises the logistical effort, to include coordinating all aspects of CSS in paragraph 4 of the task force order with the S1 and the BMO. The S4 is responsible for the arrangement, security, and movement of the combat trains, and is the OIC of the combat trains CP.

(e) Battalion Maintenance Officer. The BMO plans, coordinates, and supervises the maintenance and recovery efforts of the maintenance platoon and ensures that adequate maintenance support is provided to the task force. Although a staff officer in the battalion headquarters, he is also the maintenance platoon leader. The maintenance warrant officer assists the BMO by providing technical assistance and supervises the maintenance platoon. The BMO supervises the unit maintenance collection point (UMCP).

(5) Special Staff. Special staff officers assist the commander in command and control in special areas of expertise, generally under the direct supervision the coordinating staff.

(a) S3 Air. The S3 Air is the principal assistant to the S3. As the battalion link to the Army airspace command and control system, he coordinates use of battalion air space and the employment of air support with the FSO (FSCoord), the tactical air control party (TACP), and the aviation liaison officer, as well as the air defense section or platoon leader. The S3 Air works in the main CP.

(b) Assistant S3/Chemical Officer. The chemical officer is responsible for advising the commander on impacts of NBC employment on current or future operations. He coordinates and plans decontamination and smoke operations. He is located at the main CP.

(c) Tactical Intelligence Officer. The tactical intelligence officer works under the supervision of the S2 and is part of the two-man battlefield information control center (BICC). The BICC's primary responsibility is to perform unit intelligence collection, processing, and disseminating actions as tasked by the S2. The BICC operates in the main CP.

(d) Liaison Officer. LOs are commissioned and noncommissioned officers who represent their commander at other headquarters. Through personal contact, they promote cooperation and coordination and facilitate the exchange of information. LOs are tasked with general coordination instructions in the task force SOP and with specific coordination instructions each time they are

dispatched to another headquarters. Their role as task force commander representative requires LOs to know all task force plans and dispositions. LOs ensure that critical information is passed between the task force headquarters and the headquarters to which they are dispatched. When operating in the main CP, LOs are supervised by the shift OIC.

(e) Battalion Signal Officer. The battalion signal officer, in addition to leading the communications platoon, exercises technical supervision over the installation and use of communication systems and the activities of communications personnel. His specific duties are directed by the battalion S3. He reconnoiters possible CP sites for communication capabilities, recommends retransmission equipment employment, establishes messenger services and schedules, and monitors COMSEC.

(f) Battalion Surgeon. The battalion surgeon is the medical platoon leader. With the aid of a physician's assistant, he operates the battalion aid station in the combat trains. He and his assistants provide training for the medical platoon, treatment of the wounded, and information on the health of the battalion to the commander. A medical service corps officer and the platoon sergeant assist in the administration and the logistics of the medical platoon, and plan and coordinate patient evacuation to the supporting medical company.

(g) Battalion Chaplain. The battalion chaplain provides religious services and personal counseling. As a special staff officer, he provides the commander with an in-depth view of the esprit de corps, spiritual well-being, and morale of the unit. Although he has a personal staff relationship with the commander, he coordinates his special staff actions through the S1 and operates from the combat trains.

(h) Other Staff Assets. The HHC commander, the task force FSO, the task force FAC, and the senior leaders of elements supporting the task force provide special staff assistance to the commander directly or through the primary staff.

1 Headquarters and Headquarters Company Commander. The HHC commander is located in the task force field trains. He is responsible for coordination, security, and movement of the field trains, both organic and attached. The HHC commander acts as a battalion task force CSS coordinator assisting the S1 and S4 by ensuring that field trains support is smooth, timely, and efficient.

2 Fire Support Officer. The FSO is a habitually associated officer from the FA battalion in direct support of the brigade. He coordinates all fire support for battalion task force operations and, as such, the battalion FSO is also the battalion FSCOORD. The FSO establishes the fire support element at the main CP. The FSO monitors the positioning of the battalion mortar platoon and employs its fires. He also recommends the

employment of any supporting field artillery assets. The FSO operates either from the main CP or forward with the commander.

3 Forward Air Controller. The FAC is a US Air Force officer responsible for coordination and employment of US Air Force assets in support of the task force. He is responsible for the tactical air control party. He primarily operates forward with the commander.

4 Air Defense Artillery Officer. The senior leader of a supporting ADA unit(s) advises the commander on employment of ADA assets. During the planning process, he is at the main CP to ensure the integration of air defense in the concept of operation. During the execution of the plan, he positions himself to best command and control the air defense assets. He monitors the command net to remain responsive to the needs of the commander. He also monitors the early warning net to assist in the acquisition and dissemination of early warning information as a member of the Army airspace command and control system.

5 Engineer. The senior leader of any supporting engineer units also acts as a special staff officer advising the commander on employment of engineer assets. The task force engineer monitors the task force command net while directly supervising his unit during its operations.

2. Command and Control Facilities.

The task force command and control facilities consist of the vehicle and locations from which the task force commander, assisted by his staff, directs the battle and sustains the force. The exercise of command and control is focused in four major facilities—the main CP, the tactical CP, the combat trains CP, and the field trains CP.

a. Main Command Post. The task force main CP is the control, coordination and communications center for combat operations.

(1) Organization. The main CP is composed of the S2 and S3 sections, the FSE, representatives from other attached elements, and the tactical CP (when not forward). The main CP vehicles and personnel must be as few as possible to allow for rapid displacement, but large enough to accomplish command and control functions in support of the commander.

(2) Functions. The functions of the main CP are to monitor and assist in command and control by maintaining contact and coordination with higher and adjacent units, continuously updating the enemy situation, planning operations, analyzing and disseminating tactical information, maintaining situation maps, and requesting and synchronizing additional CS and CSS for the battle. Factors that have immediate operational impact must be monitored by the main CP and communicated to the commander.

(3) Operations. The primary considerations in positioning the main CP are communications, access, and survivability. The personnel who operate the main CP must be organized to provide both security and continuous operations on a 24-hour-a-day basis. A sleep plan must be enforced to preserve the ability of CP personnel to perform continuous operations. The main CP internal SOP establishes this internal organization. Coordination between the main CP, the combat trains CP, and the field trains CP must be continuous to ensure that CSS is integrated into the mission effort. One technique is to monitor the administrative/logistics (A/L) net on a remote. When possible, a landline link is established with the combat trains CP. The security of the main CP is enhanced by its ability to displace rapidly and provide a reduced electronic signature. Displacements are planned to ensure the main CP is stationary during critical phases of the battle.

(4) Alternate Main CP. The combat trains CP is normally designated as the alternate main CP. Aid station and UMCP assets may be collocated to enhance communications capability. A mortar FDC truck may also be used as an alternate main CP. If required to function as the main CP, the primary functions of these elements suffer, and the effectiveness of the new main CP is also degraded.

b. Tactical Command Post. A tactical CP may be formed during fast-moving offensive or retrograde operations to maintain communications and facilitate the movement of the main CP. In such circumstances the commander may designate one of the command post vehicles from the main CP to act as the tactical CP. Some or all of the command group may locate at the tactical CP at various times.

c. Command Group. The command group consists of the commander and those he selects to go forward to assist him in controlling maneuver and fires during the battle. It normally includes the FSO, FAC, and S3. There is no requirement for these people to collocate. For example, the command may be in one part of the battalion sector while the S3 might be in a separate part of the sector. The composition, nature, and task of the command group are determined by the commander to permit the optimum command and control of his unit during the battle.

d. Combat Trains Command Post. The combat trains CP is the coordination center for combat service support for the task force and the control element of the combat trains. It is positioned forward of the field trains.

(1) Role. The S4 is responsible for operations, movement, and security of the combat trains, assisted by the S1. The S4, S1, and BMO must continually assess the situation, anticipate the needs of units, and prepare to push support forward. Anticipating requirements is the key to successful combat service support.

(2) Functions. The combat trains CP maintains the CSS status of the battalion. In preparation to assume its functions as alternate main CP the combat trains CP monitors the task force command net and maintains charts and tactical situation maps identical to those at the main CP. The combat trains CP routinely operates a switchboard for

elements in the combat trains and is the NCS for the battalion A/L net and operates in the brigade A/L net.

Any change in the main effort of the battalion should be reported to the combat trains CP by the main CP or tactical CP. Similarly, major change in the ability of the CSS system to support operation must be immediately reported to the main CP by the combat trains CP. The combat trains CP relays information to the field trains CP.

e. Field Trains Command Post. This subparagraph discusses the control, elements, functions, and OPCON status of the field trains command post.

(1) Control. The field trains are under the control of the HHC commander whose headquarters is the field trains CP. When the TF commander coordinates his field trains with the BSA, the HHC command coordinates with the forward support battalion for positioning and a defensive sector for the battalion field trains elements. When the task force commander deems it necessary, the field trains may be positioned outside the BSA in the task force area of operations. In this case, the task force S3 designates the general location for the field trains or directs that unit trains be formed under the control of the S4.

(2) Elements. The field train CP is composed of the HHC commander, and the remaining elements of the S1 and S4 sections. It coordinates the collection and movement of CSS from the task force field trains and the forward support battalion, to forward elements of the task force. It controls and coordinates the activities of the task force field trains including operations of the support platoon, elements of the maintenance platoon in the field trains, company and attached units' supply sections, and the PAC. The field trains CP monitors the task force A/L net and maintains a communications link with the forward support battalion CP.

(3) Functions. Supplies, personnel, and mail going forward from the field trains are grouped together into logistics packages (LOGPACs) under the control of the support platoon leader or a company supply sergeant. The field trains CP organizes and dispatches LOGPACs based on instruction from the combat trains CP.

(4) OPCON Status. The battalion trains are normally echeloned with both a combat trains CP and a field trains CP. The alternative configuration is to form unit trains with a single rear CP which is operated by the S4. In this case there is no field trains CP.

3. Command and Control Communications.

The commander must understand the capabilities, limitations, and vulnerabilities of his communications system. He should—

- Provide redundant means of communication.
- Minimize use of the radio by using face-to-face coordination, wire, and messengers when possible.

- a. All Levels. All levels of command must gain and maintain communications with the appropriate headquarters and personnel. The traditional coordination and communications responsibilities are senior to subordinate, supporting to supported, reinforcing to reinforced, from left to right, and from rear to front.
- b. Units. Regardless of the responsibility, all units take prompt action to restore lost communications.
- c. Signal Officer. The signal officer establishes communications relays according to the task force commander's directives.

4. Radio Nets.

Battalion task force, communications are sent over a variety of radio nets. Primary battalion communications nets are—

- a. Command Net. A secure command net is used for command and control of the task force. All organic and attached units, including the FSO, FAC, and leaders of supporting elements, enter the task force command net. During the execution of the mission, only commanders transmit. All others monitor and transmit only essential information. The command net is controlled by the task force main CP.
- b. Operation and Intelligence (O&I) Net. The O&I net is a secure net established to provide a mechanism for the battalion task force to accept routine items of information concerning operations and intelligence reporting without cluttering or interfering with the battalion command net.
- c. Administrative/Logistics Net. The A/L net is a tactical net, controlled by the combat trains CP, used to communicate the administrative and logistical requirements of the task force. All organic and attached units normally operate in this net.
- d. Special Radio Nets. The following special radio nets are used by the task force for specific purposes.

The scout platoon net or a designated frequency may function as a surveillance net when required. The S2 and elements assigned surveillance missions operate on this net. Other elements enter or leave the net to pass information as required.

The task force FSE and company fire support teams (FISTs) operate in the supporting field artillery command fire direction net and a designated fire direction net to coordinate field artillery fires for the battalion. The TACP operates in US Air Force tactical air-request and air-ground nets to control air strikes.

Supporting air defense units monitor the early warning net. In the absence of collocated air defense support, the main CP also monitors the division early warning net. Attached or OPCON support assets may operate in their parent unit nets, but they must also monitor the command net at all times.

[Figure 2-5](#) illustrates the primary task force FM nets and stations that operate in each net.

	TF CMD	TF O&I	TF A/L	OTHER
CDR	P	—	E	P – BDE CMD
XO	P	—	P	
S3	P	M	—	M – BDE CMD
MAIN CP (S3)	NCS	—	M	P – BDE CMD
MAIN CP (S2)	M	NCS	—	P – BDE O&I
COMBAT TRAINS CP	M	—	NCS	P – BDE A/L
SIGNAL OFFICER	M	E	M	E – AS REQUIRED
FSO	M	—	—	M – TF FD, FS NETs
FAC	M	E	—	P – AIR FORCE NETs
S1	—	—	M	
S4	M	—	P	E – AS REQUIRED
BMO	—	—	P	
SPT PLT	M	—	P	
MED PLT	—	—	P	
CO/TM CDRs	P	E	—	P – CO/TM CMD
CO/TM XOs	M	—	E	P – CO/TM CMD
CO/TM 1SG	—	—	P	P – CO/TM CMD
ENGR PLT	M	E	E	P – ENGR PLT
SCOUT PLT	P	P	E	P – SCOUT PLT
ADA PLT	M	E	E	P – ADA PLT; EW
MORTAR PLT	M	—	E	NCSS – TF FD NET
GSR	M	P	E	
HHC CDR	—	—	P	P – BDE A/L
LO	M	E	—	M – AS ASSIGNED

NCS – NET CONTROL STATION FOR NET

P – PRIMARY USERS – MONITOR AND TRANSMIT

M – MONITOR NET, TRANSMIT AS REQUIRED

E – ENTER NET TO TRANSMIT MESSAGE, THEN RETURN TO PRIMARY NET

Figure 2-5. Task force FM nets/stations matrix

5. Eavesdrop System.

Eavesdrop is a technique used on all nets from task force command down to platoon nets. This technique requires all stations to monitor and use message traffic on a given net, even if they are not the direct recipients of the message. For example, command net traffic is sent from a company team commander to the task force commander or S3 at the tactical CP. The other company team commanders and main CP monitor this traffic, update situation maps, and take appropriate action.

In this way, all stations have an understanding of the situation without requiring the same information to be transmitted by the NCS. Additionally, operations may require continuous monitoring of a subordinate or adjacent unit net. In this case, the main CP eavesdrops on the selected net and ensures information critical to task force operations is retransmitted over the appropriate battalion nets.

6. Mobile Subscriber Equipment.

MSE terminals with tactical facsimile (TACFAX) connectors are located at the main CP and the combat trains CP. They provide a rapid, secure means of transmitting and receiving OPORDs and lengthy CSS reports between the task force and brigade. Any MSE terminal provides access to the entire corps network.

7. Communications Security.

Communications security denies or delays unauthorized persons from gaining communications information. Techniques include—

- Using authentication procedures.
- Changing frequencies and call signs.
- Restricting use of radio transmitters.
- Using wire or messenger.
- Reducing transmission time.
- Frequent authentication.

8. Antijamming.

Antijamming procedures used by radio operators include—

- Use of low power.
- Antenna masking and directional antennas.
- Continued operation and reporting.
- Surreptitiously switching frequencies.

9. Other Command and Control Procedures.

This paragraph describes additional procedures which enhance command and control.

a. Operational Security. This subparagraph describes the role and types of operations security.

(1) Role of OPSEC. OPSEC denies the enemy information about planned, ongoing, and after-operation activity until it is too late for enemy forces to react effectively. OPSEC must be maintained throughout all phases of an operation. It is an integral part of planning, unit training, and combat operations at all levels of command. The S3 has primary staff responsibility for OPSEC within the task force. He is assisted by the S2, who provides information on the enemy's collection capabilities.

(2) Types of OPSEC. There are three types of OPSEC protective measures:

- Countersurveillance.
- Countermeasures.
- Deception.

(a) Counterintelligence. Countersurveillance includes measures (ground, air, or electronic) taken to protect the status of friendly activities and operations, such as those measures taken to defeat enemy reconnaissance. Countersurveillance of

enemy air is accomplished primarily through camouflage, cover, and concealment and by use of air defense assets. Countering enemy ground reconnaissance is accomplished through active and aggressive counterreconnaissance measures.

(b) Countermeasures. Countermeasures are actions taken to eliminate or reduce the intelligence and electronic warfare threat. These actions may be anything from deception to destruction of the enemy collection capability. Countermeasures include—

- Vehicle camouflage.
- Light and noise discipline.
- Challenge and password.

(c) Tactical Deception. Tactical deception includes those measures taken to create a false picture of friendly activities and operations. The deception must be believable and must make the enemy do something or not do something that supports the commander's concept. Deception helps to establish the conditions for surprise. Maneuver plans that avoid obvious patterns or solutions can be integrated with deception to achieve surprise.

Deception operations may include—

- Feints and ruses.
- Demonstrations.
- Dummy equipment and positions.
- Falsification of material placed where it can be captured or photographed by the enemy.
- Manipulation of electronic signals.

Most deception operations are planned and directed at levels above battalion.

Means of deception at battalion are—

- Visual - showing movement, equipment, and activity at a believable time in a believable place. This can be actual or dummy.
- Sound - engines running, track noise, hatch closing, digging, and gunfire.
- Odor - diesel fumes and cooking odors.
- Electronics - false transmission, remote locations for radios, and radar scan of areas other than those of primary interest.
- Thermal - false heat sources.

Deception techniques can be combined in various ways. For example, a small force can simulate a larger one by—

- Making the noises of a larger force.
- Having some actual and some dummy positions.
- Raising dust clouds by having vehicles dragging chains or tree branches.

- Moving a force across an observable area, then returning it under cover and presenting it again and again.
- Creating extra radio stations to simulate traffic of a larger unit.
- In many other ways.

The commander must think of security (all types) and deception as combat multipliers. Military intelligence support can often assist in these activities.

b. Fire Control. Control of battalion task force fires is critical to the effective employment and massing of available fire support. Fire control is used with maneuver to bring the maximum available direct and indirect fires on the enemy's positions or formation while avoiding the mistaken engagement of friendly forces (fratricide). A normal part of a company team's mission is telling it where, when, and what to engage by direct and indirect fire.

Fires should be distributed to completely cover the enemy. Ideally, each weapon should fire at a different target or part of the enemy. With the lethality of modern weapons, multiple engagements of the same enemy target waste ammunition and lessen the ability to quickly destroy the enemy.

Fire control measures are used to distribute fires, designate targets, and protect friendly forces. Fire control measures normally used by the battalion task force are—

- Sectors of fire.
- TRPs and EAs.
- Restrictive fire control measures.
- Priorities of engagement.
- Pyrotechnics and visual markers.
- Checkpoints and trigger points.

Practice Exercise

Lesson 2

Instructions The following items will test your understanding of the material covered in this lesson. There is only one correct answer for each item. When you have completed the exercise, check your answers with the answer key that follows. If you answer any item incorrectly, review that part of the lesson which contains the portion involved.

Situation: You are a battalion staff officer planning a combat mission using mechanized infantry battalion organic, attached, and supporting resources. Use this situation to answer questions 1 through 6.

1. The high density of tracked vehicles in your battalion requires you to give special consideration to the consumption of which classes of supply items?
 - ☐ A. I, II, and III.
 - B. III, V, and IX.
 - C. IV, VI, and IX.
 - D. V, VIII, and X.
2. You plan a tactical airlift. To protect friendly forces against enemy tanks, you plan which of the following means of combat support?
 - A. Cannon field artillery.
 - B. Battlefield air interdiction.
 - C. Air defense artillery.
 - D. Engineers.
3. You issue guidelines to help prevent enemy pilots from seeing and identifying your unit. For example, you advise commanders to ensure that
 - A. troops occupy only natural or enhanced natural fighting positions.
 - B. travel from one location to another is by the most direct route possible.
 - C. they fire on hostile fixed-wing aircraft as soon as possible so that they do not identify friendly vehicles or locations.
 - D. they wipe out track marks that lead to a position.

4. You want your unit to adopt the alert posture for a probable enemy aircraft or missile attack. You issue which of the following defense warnings?
- A. Red.
 - B. Orange.
 - C. Yellow.
 - D. White.
5. A company commander requests assistance in emplacing minefields on his exposed flanks and in preparing positions for overwatch. To provide this assistance, you attach which of the following assets to his company?
- A. Scouts.
 - B. Engineers.
 - C. Military police.
 - D. Military intelligence
6. You use ground surveillance radar (GSR) to detect
- A. high-flying enemy aircraft.
 - B. dug-in enemy infantry.
 - C. moving targets in the presence of a background.
 - D. stationary targets in the absence of a background.

Situation: You are a task force commander employing your unit in accordance with the seven battlefield operating systems. Use this situation to answer questions 7 through 10.

7. You task which of the following fire support assets to deliver scatterable mines and Copperhead projectiles?
- A. Naval gunfire.
 - B. Mortar platoon.
 - C. Field artillery.
 - D. USAF close air support.
8. To arrange for enemy prisoner of war support, you contact which of the following staff officers?
- A. S1.
 - B. S2.
 - C. S3.
 - D. S5.

9. In positioning combat trains, you ensure that the ground
- A. is high and dry.
 - B. can support the vehicle traffic.
 - C. provides restricted movement.
 - D. is readily located.
10. You provide which of the following classes of supply to your supporting engineers?
- A. I and II.
 - B. III and IV.
 - C. IV and V.
 - D. V and VI.

Situation: You are conducting maintenance on your unit's vehicles and equipment. Use this situation to answer question 11.

11. For on-site maintenance, you typically allow a maximum of how many hours?
- A. Less than two.
 - B. Four to six.
 - C. Six to 24.
 - D. 24 to 36.

Situation: You are the task force S1 (adjutant). You are coordinating services support for smaller units. Use this situation to answer questions 12 and 13.

12. One of the services support for which you are responsible is
- A. graves registration.
 - B. clothing exchange and bath.
 - C. laundry and renovation.
 - D. personnel and administrative services.
13. You are responsible for planning and coordinating
- A. finance services.
 - B. public affairs.
 - C. postal services.
 - D. enemy prisoners of war (EPW) operations.

Situation: You are the battalion staff S2 providing task force command and control. Use this situation to answer questions 14 through 16.

14. You are responsible for combat intelligence. You organize for continuous combat operations in coordination with
 - A. S1.
 - B. S2.
 - C. S3.
 - D. S4.
15. The S2 operates on which of the following special radio nets?
 - A. Command.
 - B. Operation and intelligence.
 - C. Administrative/logistics.
 - D. Scout platoon.
16. You assist the S3 (operations and training officer) in operations security (OPSEC) by providing him with information concerning the enemy's
 - A. radio frequencies.
 - B. collection capabilities.
 - C. weapons and equipment.
 - D. maneuver capability.